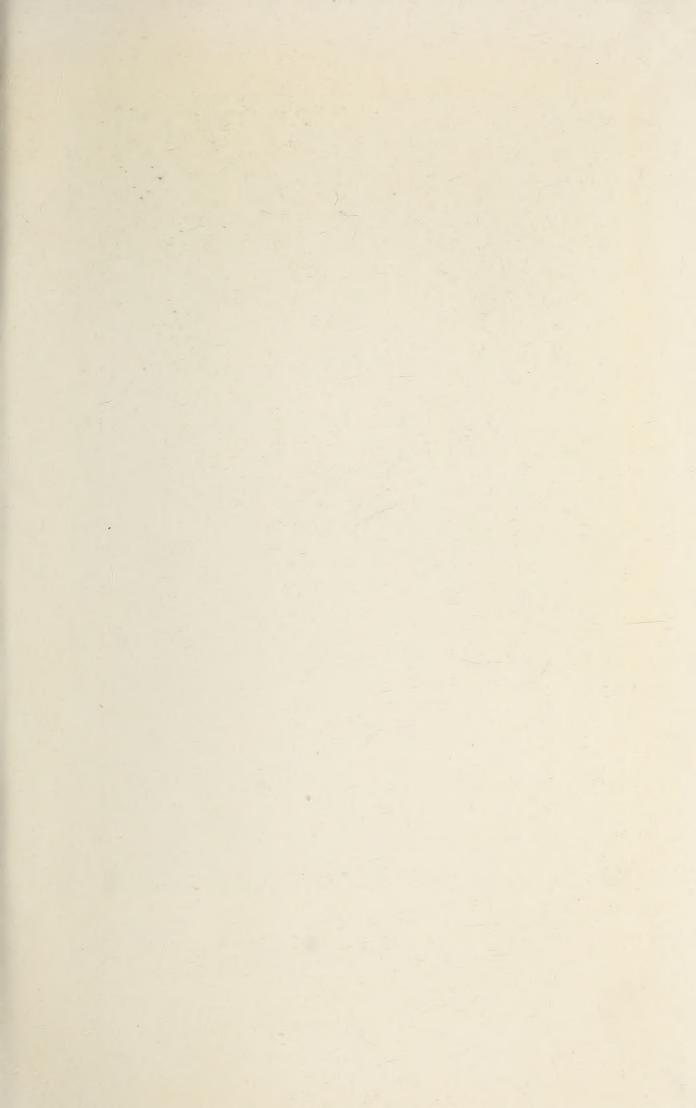




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HOW TO BE USEFUL AND HAPPY FROM SIXTY TO NINETY



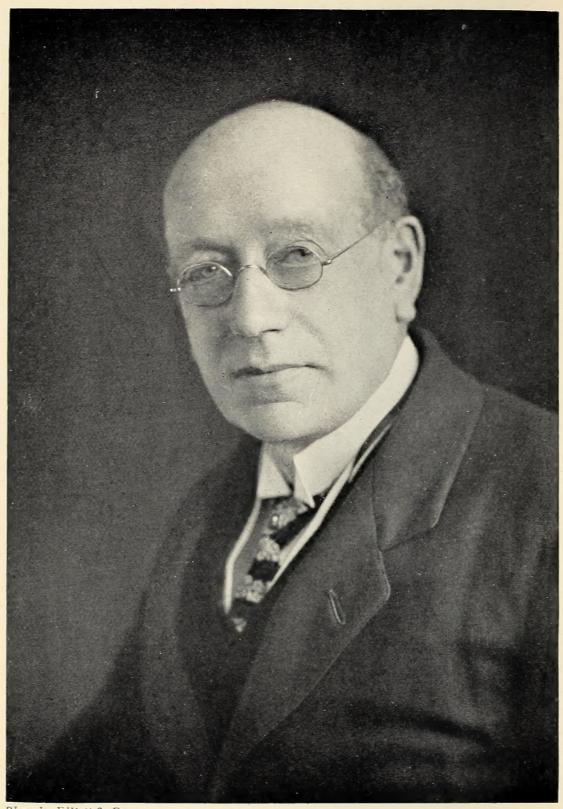
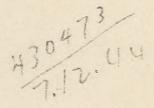


Photo by Elliott & Fry

A. Lapttom Smith

MHY

HOW TO BE USEFUL AND HAPPY FROM SIXTY TO NINETY BY A. LAPTHORN SMITH B.A., M.D., M.R.C.S., ETC. WITH A FOREWORD BY SIR CHARTERS SYMONDS, M.D., M.S., F.R.C.S., K.B.E., C.B.



JOHN LANE THE BODLEY HEAD LIMITED LONDON MCMXXII

THIRD EDITION

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DEDICATED TO THE MEMORY OF

MY FATHER

THE LATE WILLIAM SMITH
DEPUTY MINISTER OF MARINE AND FISHERIES
OF CANADA

WHO OCCUPIED HIS IMPORTANT POSITION

AND

FULFILLED HIS MULTIFARIOUS DUTIES

TO THE SATISFACTION OF HIS COUNTRY TO

THE AGE OF SEVENTY-FIVE



FOREWORD

BY SIR CHARTERS SYMONDS, M.D., M.S., F.R.C.S., K.B.E., C.B.

CONSULTING SURGEON TO GUY'S HOSPITAL AND PAST VICE-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

UCH that is written in this book will be read with interest, a good deal of it with instruction, and much more will be helpful and encouraging.

That the author is an optimist will be readily perceived; that he has practised successfully the method he advocates I am able to testify through a friendship of five and forty

years.

A man who finds his interest, occupation, and entertainment in the lives of others, and has devoted a considerable part of his life to hospital work among the poor, as has Dr. Lapthorn Smith, is no mere theorist, and hence there will be found much sound advice in these pages for those who wish to be in good health long after sixty.

Cast in a strain peculiarly his own, and free from the essay style, the author will attract many readers who enjoy the

anecdotal form of writing.

He fully proves his contention that the best way to be useful and happy after sixty is to keep the mind and body active; and as he shows so many ways of attaining this goal, I am sure that his book will be welcomed.

I wish it bon voyage.

CHARTERS J. SYMONDS



PREFACE TO FIRST EDITION

URING the last four hundred and seventy-six years there have appeared about one hundred and fifty works on the Prolongation of Life or on some kindred subject, which averages about one every three years, beginning with Cornaro's Discourses on a Sober and Temperate Life, published in 1558. Some of these were short lectures published in a Medical journal, others were articles in Systems of Medicine, and still others began as a journal article and have later formed the basis of a small book which has gone through many editions, and growing larger each time. Anyone wishing to get a very complete list of these one hundred and fifty works cannot do better than consult the excellent Bibliography at the end of Sir Herman Weber's interesting book on Means for the Prolongation of Life, founded on a lecture delivered before the Royal College of Physicians on 3rd December, 1903, nearly twenty years ago, a work which I have quoted freely in my own modest effort to add to the sum of human happiness.

He takes for his motto, "Work, Moderation and Contentedness are the main sources of health, happiness and long life." But as the title of my book is How to be Useful and Happy from Sixty to Ninety, I have tried to treat the subject on somewhat different lines. In order to enjoy the above privileges one must of course be alive and in fairly good health, but my contention is that there is no particular object or raison d'être for being alive and well except in order to be useful; and that without being useful to our fellow-beings there is not much chance of being happy.

PREFACE

Usefulness, or Altruism, is one of the surest means of being happy. One might indeed be alive and well from sixty to ninety and yet wish every day that he was dead. But if we spend the remaining years left to us in making others happy, we will surely wish that we might live a few years more to carry on that pleasant and useful work. So while on the one hand I endeavour to show that the present average of life might be greatly prolonged I constantly try to point out

why it is worth while prolonging it.1

Many years ago I read the excellent little work by my late beloved teacher, Sir Henry Thompson, on Diet in Relation to Age and Activity, and I presented a copy of it to many of my friends on their sixtieth birthday. Many of them lived to be active men at eighty, and they assured me that they owed a great deal of their activity to his wise counsels. Sir Henry Thompson himself was one of the busiest of doctors at that age, and Sir Herman Weber was in active practice for many years longer. So that the lives of these two great men were good evidence of the soundness of their theories.

That my little work may enable thousands to be Useful and Happy until they are long past ninety and that some may even reach a hundred is the earnest wish of

THE AUTHOR

HARLEY STREET, LONDON, W. I May, 1921

¹ I have also quoted freely from the thirteenth edition of M. Jean Finot's excellent work on *Longevity*, published by Felix Alcan, Paris.

PREFACE TO THIRD EDITION

THEN the first edition of this book was issued four months ago neither author nor publisher was very sanguine that it would reach a second edition.

But thanks to the generous Foreword of Sir Charters Symonds and the very kind reception which it received at the hands of the reviewers, and to no small extent to the attractive form in which it was produced by The Bodley Head it has rapidly passed through two large editions.

To all the above and also to the many kind friends who, having bought the book and read it, have sat down and written to the author a kind letter of appreciation and encouragement, he desires to express his cordial thanks. Some of his readers have greatly helped by pointing out typographical and other minor errors which were inevitable in a work written in spare moments of a very busy life, and mostly between six and eight in the morning. Among many others the letter of Lord Knutsford was especially useful. His suggestions and corrections have been incorporated in the text or in footnotes.

The Rev. D. Fleming writes: "I still have the pleasure of reading in many publications notices of your book. I do not remember ever reading such a long series of reviews without a single word of adverse criticism appearing in any of them."

One of the best known writers in the English language has sent me the following very interesting letter with permission to use it. He says: "As I am a living example of your rules it may be useful to you to have my experience.

PREFACE

If I live, as I hope, to next October, I shall be ninety-one. I have not yet changed any of my habits and I continue my way of life, of food, of exercise and of work. I try to be useful, for I am constantly called upon for public duties. Physically I am happy, for I have no loss of any organ, and morally I am as happy as a man of my years can be who has lost his wife and youngest son and has many domestic cares. I sleep eight hours regularly—sometimes seven, eight, or nine without waking. I read the smallest print without glasses and my hearing is sufficient. I walk about two hours daily, and until last year, when I injured my foot, I could walk up the Malvern and Brecon beacons. I am writing to you because my practice for thirty years has been entirely on the lines of your rules. My rules have been:

- 1. No tobacco, no spirits, no spiced dishes or ragouts.
- 2. Rise from every meal with an appetite (for thirty years have eaten very little meat—slivers of mutton).
 - 3. Walk every day for two or more hours.
 - 4. Sleep every night for eight hours.
- 5. Be content with what you have; do not struggle for money or favour or place. I may fairly claim to have practised all these nearly my lifetime. At meals I take one glass of light French wine. I have never once touched tobacco. I was never drunk. I have never had an illness except influenza since I had a rash at nine. But I have had no fever, not even childish ailments, and have never had to be in bed more than three days—with catarrh. I still rise at 8 a.m. and go about as usual, and do not rest. I can still stand and address a public meeting. Physically, apart from a long walk (over two miles), I feel the joie de vivre as I did at seventy-five. I am not at all a strong man either in body or in nerve, but I have had special advantages. I come of a very long-lived family on both sides, father and mother of a sound, healthy race, Leicestershire and Ulster. brought up with great care by a very prudent and wealthy

PREFACE

father and have had all my life an easy competence that has enabled me to decline the struggle for life. Blessed be his name."

The one point on which a few reviewers disagreed was the allowance of tobacco. They thought that it was impossible for a smoker to do with only one ounce a week. One wrote from abroad begging that it might be raised to two ounces. But since the publication of the book a great deal of evidence has come to hand from some of our greatest medical authorities, that some of our most valuable public men have had their sight seriously imperilled by excessive smoking, two at least having to give up their duties for a time. The author is more sure than ever that excessive smoking is not only the cause of much injury to the sight, but also of many otherwise unexplained functional disorders of the heart and bloodvessels.

In the first edition the wish was expressed that this book might be the means of adding to the usefulness and happiness of many thousands. From the many private letters and personal communication from readers, both at home and abroad, the author has reason to believe that his wish is being fulfilled.

THE AUTHOR

15 CAVENDISH PLACE, CAVENDISH SQUARE, W. 1

July, 1922.

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Though I look old, yet I am strong and lusty;
For in my youth I never did apply
Hot and rebellious spirits in my blood;
Nor did with unabashed forehead woo
The means of weakness and debility;
Therefore my age is as a lusty winter,
Frosty, but kindly.

As You Like It.
Act II, Scene 3.

Bur why, you ask me, should this tale be told
To men grown old, or who are growing old?
Is it too late! Ah, nothing is too late
Till the tired heart shall cease to palpitate.
Cato learned Greek at eighty; Sophocles
Wrote his grand Ædipus, and Simonides
Bore off the prize of verse from his compeers,
When each had numbered more than fourscore years.
And Theophrastus, at four score and ten
Had but begun his Character of Men;

These are, indeed, exceptions; but they show How far the gulf-stream of our youth may flow Into the arctic region of our lives Where little else than life itself survives.

Longfellow.



HOW TO BE USEFUL AND HAPPY FROM SIXTY TO NINETY



HOW TO BE USEFUL & HAPPY FROM SIXTY TO NINETY

CHAPTER I

INSTANCES OF USEFULNESS AFTER SIXTY

NE of our greatest writers, whose death we had recently to deplore, in the course of an after-dinner speech and before a company of ambitious young medical men jokingly made the remark that "Everybody should be chloroformed at sixty" and thus make room for the younger generation. Much to his annoyance and surprise the Press of two continents took the matter up quite seriously and long editorials appeared on the question as to whether life was worth living and whether it could be useful after the age of sixty has been reached.

Although this great medical teacher lost no time in disclaiming any intention of being taken literally—for he was nearing sixty himself—the idea has

¹ Sir William Osler.

been constantly referred to during the ten years which have since elapsed.

His own mother had led a useful and happy life from sixty to one hundred, surrounded by her large family of great and distinguished children who loved and respected her, and he himself accomplished some of the greatest works of his life between the ages of sixty and seventy. His life was one of the happiest and none could have been more useful; and had it not been for the railway strike, which compelled him to drive hundreds of miles through sleet and slush by car, there was no reason why he should not have been just as happy and useful for twenty or thirty years more.

We have known many people, and such must be the experience of everyone, who have not only been very useful after sixty, as well as very happy, but who have actually done the greatest work of their lives between seventy and eighty; while many others have not only earned their own living, but have contributed greatly to the sum of human happiness long after they had passed the age of sixty.

So that when we hear of anyone dying at forty or fifty or even sixty we at once ask the question "Why this waste of human life at its most precious time, when years of experience have been gathered together and digested which could have been made use of for the welfare of humanity?"

To overcome the erroneous idea that because a

FROM SIXTY TO NINETY

man has reached the age of sixty he must give up all his interests in life and spend the rest of his days in idleness and sorrow is the object of this modest little book.

"Idleness is a calamity." Would that the motto were written large over the entrance gate to every hive of industry and on the wall of every office and counting house and over every workman's bench or lathe. Many times the author has seen idleness and its accompanying sorrow forced upon a busy and happy community which till that day had hardly ever known what sorrow was; and in the same way has he seen happy and useful individuals enjoying every hour of their lives until in the very summer of their usefulness this calamity of idleness was forced upon them by the cruel dictum, "Too old at sixty."

This is quite wrong, and it has been one of the pleasures of his own busy life that the author can look back upon having been the means of inducing many valuable people to keep right on with their well-regulated and useful lives from sixty to over

eighty.

We have said that we all know people who continued to be happy and useful long past sixty years of age; let us give a few instances from a great many.

One of the writer's own kinsmen, a medical man, was still earning a very large income, perhaps

sixty or seventy per cent of the most he ever earned, at the age of ninety-two, when he was the thinnest, the lightest, most active, the happiest, and the most beloved of any physician in the city in which he was born and raised. He had been given every possible position of honour within its gift, as well as having been President of the Medical Association of half a continent, President of the Association of his province, President of the Association of Physicians of his city, President of the Medical Board of the Hospital and of the Asylum, as well as many other positions of honour; and yet there are some who would say that a man has no reason for existing after sixty.

It was not by chance that this gentleman reached that great age and preserved such perfect health so long. It was the result of well-known and definite causes which will become apparent in the succeeding pages of this book. But as the writer spent three days under his hospitable roof when he was over ninety we can testify that his waiting-room, which was an unusually large one, was filled with people all day long. He began seeing them at 9 a.m., went out at ten in his carriage and made a number of visits to those who were in bed and could not come; he returned at eleven or twelve and went right on in his consulting-room, seeing patients till one. He took half an hour to a very light lunch; saw patients till four and then went out in his brougham

FROM SIXTY TO NINETY

till nearly six. He rested while reading the paper till 6.30, when he sat down to a light dinner.

It was interesting to notice: first, that he was thin and wiry, just one hundred pounds, for height of five feet six; second, that he never smoked; third, that he had a cup of tea at 7 a.m., coffee at breakfast at 8.30, water at lunch, and two ounces of very old Jamaica rum in a tumbler of boiling water with two lumps of sugar with his dinner at 6.30. It may be noted that he never took any alcohol between meals and that he never took it in the morning, and that he never took it without it being well diluted with water.

Another instance is that of a bank president who retired at the age of sixty-five and became a country gentleman in England, regularly following the hounds until he was over eighty. He was also very thin and active.

Another instance was that of a lady who first came under the writer's care at the age of seventy-five when she fell on the ice and caused an intra capsular fracture of the neck of the femur. These as a rule do not unite well because the synovial fluid in the hip-joint gets between the broken ends.

It appeared that she had been suffering from indigestion for several years but refused to send for a doctor, so after having her broken leg put up carefully in a splint she received treatment for her stomach, and in a year or two got what seemed to

her a new lease of life. At the age of ninety she went on a pleasure trip of three hundred miles each way by river and lake, her only companion being her walking-stick. She had a keen sense of humour and no young girl ever laughed more heartily than she did when reading a comic paper or hearing a funny story. The secret of her usefulness was her friendship with young people, especially her grand-children and great-grandchildren, by whom she was genuinely beloved.

Her health was so good that she required to be seen but once or twice a year for twenty-five years, but she took a course of her stomach medicine regularly twice a year. It seems almost incredible, but at ninety-five to a hundred she was making very little difference in her diet, enjoying a chop or a small steak at her one o'clock dinner. She passed away in her sleep at one hundred and two without any illness. Apart from walking with a stick she had no infirmity until she had reached one hundred, but after that her memory, which had been marvellous before, began to fail.

The number of years which have elapsed is not a reliable indication of the age, because one man may be old at forty-five while another may be young at sixty. The real test of age is the condition of the blood-vessels, and now the saying is generally accepted that every one is just as old as his arteries. When certain poisons are absorbed from the

FROM SIXTY TO NINETY

intestines the lining membrane of the arteries becomes inflamed and this is followed by a hardening of the arteries, partly due to a deposit of lime salts in their walls. They lose their elasticity and become breakable, and it becomes increasingly difficult for the heart to pump the blood into the extremities. If extra pressure is put on the pumping apparatus the tubes will burst, and if this happens to a tiny artery in the brain there follows an apoplectic stroke.

As we have said, Sir Henry Thompson, who was the chief of a brilliant staff of surgeons at University College Hospital, connected with the University of London, wrote a book about thirty years ago on Diet in Relation to Age and Activity, which had an enormous sale, passing through many editions, showing that there is a vast number of people over sixty who are interested in the subject. He had still a large practice at the age of eighty and was writing books which are to-day classics. He once told the writer that every page of his many books was written between 6 and 8 a.m., after he had made himself a cup of tea, everything requisite having been placed on a tray at his bedside the night before.

There are many other examples of men and women who have accomplished great work between sixty and a hundred, and the motto of their lives seems to have been to "stay in harness." Over and over again patients and friends who have consulted

us about retiring at sixty and who were strongly advised to keep in harness as long as possible, have held very important positions with advantage to the State or to their own business until over ninety. As long as they did so they enjoyed excellent health, but when at seventy-five or sooner they were compulsorily retired, they only lived a year, not to enjoy, but to bemoan their leisure.

A French philosopher once said that a man should keep at his work as though immortal even if he should know that his death would come the next day. A recent writer says truly that many an old man is living to-day who owes his life to occupation.

Titian was painting his finest pictures in his hundredth year; Lord Brougham was a strong debater at eighty and Lord Lyndhurst was speaking in the House of Lords when over ninety.

Some of Goethe's best poems were written when he had passed his seventy-fifth year, and Herbert Spencer died in harness at eighty-three. Sir Joseph Hooker, the great botanist, did much great work after eighty.

Darwin wrote his greatest work when over sixty, and completed one of his greatest works when he was seventy-one.

Carlyle finished his great work on Frederick the Great when he was sixty-nine, and Oliver Wendell Holmes wrote *The Iron Gate* when he was seventy. Longfellow wrote *Morituri Salutant* when he was

FROM SIXTY TO NINETY

sixty-eight, while Washington Irving finished the Life of Washington when he was seventy-six.

Dr. Weir Mitchell had a large practice when he was seventy-five. Senator Merrill of Vermont made a powerful address before the United States Senate when he was eighty-eight, and Edward Everett Hale published his memoirs when he was

nearly eighty.

Dr. Alonzo Garcelon, after having been Governor of Maine, returned to active medical practice and kept it up till over ninety years of age. Gladstone, the Grand Old Man of England, became famous after he was sixty and in spite of being elected four times Prime Minister he was happy and useful and still retaining the office at the age of eighty-two. We had the good fortune to study under his medical adviser, Sir Andrew Clark, who told us many of the things he had advised for his distinguished patient. Mr. Gladstone himself often said he owed his long life and wonderful health to his sound sleep, which he says he obtained by shutting his bedroom door on all his cares and worries. But he did two other things which may have had a great deal to do with it; one was to masticate every bite of food thirty times before he swallowed it, and the other was to either go for a long walk before breakfast or cut down a big tree on his estate at Hawarden.

Other instances of great ability for mental and physical work were men like Lord Roberts, General

Joffre and our late Beloved Queen Victoria, who was an untiring worker.

King Christian of Denmark was a great ruler at eighty-six, and Daniel Huntingdon was earning a large income as a portrait painter at eighty-seven.

Sir Henry Thompson was, at seventy-nine or eighty, the greatest living authority on diseases of men, and had among his patients many of the crowned heads of Europe, as well as many of the British nobility, while at the same time he was painting pictures good enough to be hung in the Royal Academy. So this effectually contradicts the idea that men over sixty are of no use for work.

William Cullen Bryant, poet and journalist, was happy and useful, remaining in harness until eightynine years of age, when he died. When he was seventy-eight his activity was so remarkable that he was asked to what he attributed the good preservation of his mental and physical faculties, he replied, "I rise early, five in summer and half-past five in winter, and immediately begin a series of exercises designed to expand the chest and at the same time call into action all the muscles and joints of the body. These are performed with dumb-bells—the very lightest covered with flannel; with a pole—a horizontal bar and a light chair swung around my head. After a full hour or sometimes more passed in this manner I bathe from head to foot. When living at my country house I spend only half an hour at these

FROM SIXTY TO NINETY

exercises in my room and the other half an hour working in my garden. Then I have my bath and dress for breakfast, which is a simple one of corn meal or oatmeal or wheat meal porridge with milk and baked apples, or other stewed fruit. When in town I walk three miles to my office at the Evening Post, remain there three hours and walk back three miles, regardless of the weather or the state of the streets. In the country I divide the morning between my literary work and work in the garden. I never take tea or coffee and do not use tobacco. I take two meals a day and my principal diet is fruit, and my only drink is water. I go to bed at ten when in town and at nine when in the country in order to rise earlier. I never do any literary work in the evening, not even writing letters, for the reason that it exerts my nervous system and prevents sound sleep. I abhor drugs either to make one sleep or to spur on nature."

Dr. Jacobi of New York was still in active practice at eighty-nine, and Dr. Stephen Smith of the same city was reading important papers and publishing interesting articles at ninety. Dr. W. W. Keen at eighty was one of the greatest surgeons of the world

and had a large consulting practice.

Ambassador Joseph R. Choate, Senator Chauncey Depew and Cardinal Gibbons were among the world's great men at eighty-two.

Principal Elliot of Harvard University at eighty-

two is still delivering lectures on literary and scientific subjects, while T. F. Sanborne was still in harness at eighty-six, and General J. R. Harrison

is still working at eighty.

Viscount Morley is still writing the best English of any living man although over eighty, and Viscount Bryce is a mountain climber and angler at eighty. Washington Gadden, Lyman Abbot, editor of Outlook, and William Dean Howells, editor of The Atlantic Monthly, are all hale and hearty, mentally and physically, although over eighty.

Another grand old man in medicine, the late Honourable Senator Sir William Hingston, M.D., of Montreal, had one of the largest consulting practices in Canada up to the very day of his death at seventynine, whilst Sir Sandford Fleming was a Director of the Canadian Pacific Railway, and took a great deal of interest in many of Canada's greatest enter-

prises at the age of eighty-five.

We do not have to go out of England for one of the greatest examples of a man doing splendid work after sixty, when we think of Lord Strathcona, who was still active at the age of ninety-four, and carrying on the most delicate diplomatic negotiations between the Dominion of Canada (much larger than the whole of Europe) and the Mother Country with signal success. At eighty he was raising regiments of cavalry among the rough riders of the West, and presenting them all equipped to his Sovereign to

help the Empire at the time of the Boer War. Lord Strathcona was carrying on the important and multifarious duties of High Commissioner for Canada in London, as well as looking after his own vast financial interests at the age of ninety-four.

Now if all these great people could lead such useful lives from sixty to ninety, why not you? The thing is quite easy—keep active in mind and body and above all whoever you are or whatever you do don't stop working. You all know the story of the noble lord who consulted a great Harley Street doctor who after listening patiently to his tale of misery wrote a prescription which he folded and handed to him, receiving in return a rather large fee. When the patient reached the street again he opened the paper to see what chemist he was to take it to when to his astonishment and indignation he read, "Live on sixpence a day and earn it." He was too angry for words and was about to ring the bell and insist upon seeing the doctor again, to give him a "piece of his mind." But on second thought he decided to sleep over it. Next day he resolved to give it a trial, and so he told his steward to provide him with a dry log and a long saw. By cutting it into six-inch lengths and chopping these up into kindling wood he was able to earn the sixpence a day. It was more difficult to live on sixpence a day, but eventually he succeeded and completely regained his health. He not only

forgave the great doctor, but sent him a very substantial thank-offering.

Another great man and a great Canadian to whom Canada owes a great deal of her present wealth and prosperity was the late Sir Charles Tupper, M.D. As a young man he earned and saved the money to pay for his medical education at Edinburgh. He returned to his native town in Nova Scotia where he soon acquired a splendid reputation as a doctor. While still quite young he was returned as a member of the local parliament of Nova Scotia. By his vigorous progressive speeches in favour of better transportation facilities for the people he was chosen as Minister of Railways and Public Works. After providing a railway and many advantages for his native province he was elected to represent it in the Federal Parliament at Ottawa. The Liberals were in power and they had cut down the protective tariff, under which many new industries were struggling successfully to become established, to an average of seventeen per cent, under the Premiership of Sir Alexander Mackenzie. Living became cheaper, but no one had any money to buy the cheap things with, for, by a well-organized system of dumping, Canada's rich and powerful neighbours to the south succeeded in closing nearly all the factories. Trainloads of sugar, furniture, boots and other manufactured articles were sold by auction to the Canadian cities for half the price they were being sold for in

the nearest United States towns. For the first and only time in the history of Canada soup kitchens were opened in all the Canadian cities, and long lines of skilled workmen waited for a quart of soup and a slice of bread. Thousands of them had to leave their home and country to get work and never returned. As soon as all the sugar refiners and other manufacturers were thoroughly ruined the kind friends who had been furnishing dumped goods at less than cost price, suddenly began to recoup themselves for their losses by charging a hundred per cent profit, which the unfortunate Canadians had to pay, or do without the goods. They could not help themselves, for all their own factories were closed and no one had the money to start them again, and if they had the money no one would have risked losing it a second time in face of the dumping peril always close at hand. The Metropolis of the United States was only as far from the Metropolis of Canada as London is from Edinburgh, a night's journey in a fast train. A great commercial panic followed and Canada was in despair. then she was saved by the young doctor from Nova Scotia who demanded a general election and obtained it. He raised a banner with the patriotic device, "Canada for the Canadians," and marched triumphant from east to west. He turned the Liberals with their low tariff out and erected a line of protective fortification three

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thousand miles long and thirty-three per cent high. A great wave of prosperity flowed over the country which has lasted to this day. Soup kitchens were closed; old factories were opened and thousands of new ones were built, for he passed an antidumping law which is a model for all nations—that no goods must be entered at the Customs invoiced at a less price than they are being sold for in the open market of the country of origin. Dr. Tupper was now a man of fifty. His experience of railway building in Nova Scotia convinced him that Canada would only be made a great nation by building a great trans-continental railway of her own. Another great Nova Scotian, Sir Sandford Fleming, who had built the railway in his native province was asked by Dr. Tupper whether a three thousand mile long railway was possible. With a small party Sir Sandford made the journey on horseback, taking six months to do what now can be done in four days. He pronounced it feasible. Mr. Stephen, now Lord Mount Stephen, and Mr. Donald A. Smith, afterwards Lord Strathcona, said they could find the money. But who would introduce the proposition into Parliament? It meant a great burden upon a small population if it failed to pay. No one dared to rise in Parliament to propose it, as the Liberal Opposition had many able speakers who were sworn to prevent it. Dr. James Grant of Ottawa, later Sir James Grant, who has just died

at the age of ninety, was the only one with sufficient courage to volunteer; and in one of the most masterly speeches ever heard in the Canadian Parliament launched the great undertaking which made Canada a nation. Dr. Tupper toured the great cities pleading for its support. We heard him making his great speech in the Windsor Hall at Montreal before the largest audience it has ever held. He prophesied that if he lived to a reasonably old age he would yet see two hundred million bushels of grain garnered from those trackless prairies over which, before the journey of Sir Sandford Fleming, no white man had ever passed. Later we heard the great special pleader, Sir Edward Blake, Leader of the Opposition, in a five hours' speech, assert that the railway would never earn enough to pay for the axle grease, but he lived to see it regularly for many years paying its ten per cent dividends.

Sir Charles Tupper died at the age of ninety at Bexley Heath, after he had lived to see his country produce more than four hundred million bushels of grain. It has now reached 1,000,000,000 (one billion) bushels. How can anyone say that a man should retire at sixty or, as some put it (and it is almost the same thing), be chloroformed when he reaches that age, when there are so many cases on record where men have been not only useful, but have shown themselves to be supermen long after

sixty. During most of the thirty years between sixty and ninety Sir Charles Tupper was either a Cabinet Minister, a Prime Minister, or in the active practice of his profession of medicine. Some may say that the last page or two form a digression; if it is, may it be a useful one. And if we have digressed a little let us digress a little more by emphasizing the fact that doctors are not sufficiently made use of in Parliament. Why should there be sixty clergymen and twice sixty members of the legal profession and only five or six medical men? There are forty thousand doctors on the medical register and there are at least a hundred of them who by reason of their liberal education and being widely travelled and widely read are most fully qualified to take part in the councils of the nation. Many of them are splendidly trained and experienced speakers whom it is a delight to listen to. Many have presided over great scientific meetings where the advances in medicine and surgery have been introduced and discussed. Medical men who have been in large practices not only have their fingers on the pulses of their patients, but they can feel the pulse of the nation. Not only do they put their ears to the stethoscope, but they have their ears to the ground and they hear long before anyone else the rumblings of a human storm. Those medical men already in Parliament are surely making good. Would that there were fifty or sixty

of our most experienced doctors over sixty years of age to support the handful already there, and to instruct their fellow M.P.'s on the most important questions concerning the Health and Welfare of the nation.

After many years of constant pressure the Medical Profession has obtained for the people of the British Isles a Ministry of Public Health, and already under its first most able and competent Minister, himself a doctor, as was most proper, it has wrought great improvements. As it becomes more perfectly organized it bids fair to inaugurate many more; and the average length of human life will be greatly prolonged, ten years at least. Every year there will be more and more doctors passing the age of sixty in robust health who in former pre-Ministry of Health days would not have reached the age of sixty at all. Here is a grand opportunity for the Minister of Health to secure their great experience for the benefit of the nation and for the advancement of his department. There is no reason why the whole department should not be manned by doctors. Even the splendid young men whose careers have been ruined as practitioners by reason of having lost one or both legs while saving their country in the war, even these young men could fill junior positions as clerks. It would certainly be less aggravating to receive letters from an M.D. or an M.R.C.P. calling the attention of a busy practitioner

to the fact that he had omitted to fill up a form, than to receive that same admonition from a grocer's clerk or a coal office boy who had obtained a position in the department. There is only one possible cause for even partial failure of the department, and that is by losing the sympathy of the forty thousand doctors on whom it depends for the carrying out of its regulations. With sixty leaders of the profession over sixty years old in Parliament and two or three hundred more over sixty occupying all the important positions in the Ministry, its success beyond peradventure would be assured. Some of them would resign at seventy, others at eighty, but in the meantime their country would have had, for ten or twenty years, the benefit of their vast experience gained in general practice. One of the worst paid professions would feel that it was placed in a no less favourable position than the clerical and legal professions in which the man of sixty can look forward to one of several hundred positions as judges and members of the House of Lords, or as archbishops, bishops or deans. There are many Princes of our Profession who are qualified both by natural brilliant attainments and by the highest possible degree of culture to occupy a seat in the Upper House of the world's greatest Parliament. Our gracious sovereign has already honoured a small number of them with a Knighthood. Most of these are well over sixty years of age and in the full

vigour of all their faculties. What better material for rejuvenating the Senate of the Empire than by giving sixty of these Knights a Life Peerage. These great doctors are already the medical advisers of most of the members of the Upper House; in fact, many of the older ones owe it to them that they are still alive and well. The Medical Lords might say, like Sir Christopher Wren,* "Requiris Monumentum—Circumspice!"

Lord Knutsford, well known for his devotion to the London Hospital, has kindly given the writer three instances of hereditary longevity. His great grandfather, Dr. Peter Holland of Knutsford, lived to ninety. His grandfather, Sir Henry Holland, M.D., Physician to Queen Caroline, lived to eighty-six. And his father, the first Viscount Knutsford, also lived to eighty-six. The present Viscount Knutsford, who is only sixty-seven, would in the ordinary way have an expectation of 9.83 years longer, but with three such long-lived immediate ancestors there is every probability of his being useful and happy for another twenty years at least. He attributes their great age first to never worrying and second to having been always busy.

^{*}Sir Christopher Wren died at the age of ninety-one after having built fifty-three churches in the Metropolis. His great work was the cathedral of St. Paul's, commenced in June, 1675, and finished by him in 1711.

CHAPTER II

MORE INSTANCES OF USEFULNESS AFTER SIXTY

men who have done great work when nearly eighty. Dr. George Clemenceau was a good general practitioner in Paris, where he was greatly beloved. He had travelled and even practised in the United States. In France's hour of greatest peril he was chosen, although nearly eighty, as the one man who could save her. He persistently insisted that one mind should control all the Allied Armies and the result was Foch. From the day of his appointment the German advance was checked, and in a few weeks they were in flight. It would not be surprising to see him practising his profession again!

Many members of the United States Senate are men who are over eighty and who from sixty to eighty have been leading most useful and happy lives working for the welfare of their country. Perhaps one of the most remarkable men over eighty-six years old is Dr. W. E. Crockett, of Boston, a great physician and athlete, who for many years

has astonished his friends by his remarkable feats of strength. According to Dr. Crockett every man at eighty can be an athlete if he takes care of himself. Some of the feats he has accomplished during the last year or two are the following: swam across Boston Bay; taking a dip in the sea at L. Street in mid-winter; walked twenty-five miles in a little more than six hours; put up a thirty pound dumbbell 385 times; stands with arms outstretched horizontally for half an hour. Dr. Crockett is almost a vegetarian, very little meat entering into his diet. Most men, he says, dig their graves with their teeth.

In the first verse of the first chapter of the first Book of Kings we read that "King David was old and stricken in years and they covered him with clothes, but he got no heat." The interested reader may find for himself how he eventually succeeded in keeping warm. Some years ago I saw an old gentleman in a blanket suit and wearing snow-shoes starting from his residence at nine o'clock at night for a two-mile run. There were several feet deep of snow on the ground, but of course his snow-shoes kept him from sinking in the snow. I afterwards learned that this very active gentleman was Dr. Fisher, aged ninety, father of a well-known Cabinet Minister in Canada, and that he took this means of preventing cold feet. One of the greatest difficulties with many men from sixty to a hundred is to keep

warm. With cold feet, as we shall see later, it is impossible to go to sleep, and the plan adopted by Dr. Fisher was one of the best. The mere act of running two miles brings the largest possible amount of hot blood into the lower extremities and away from the brain.

Sir Henry Thompson laid great stress on the point that most people who died early were large consumers of meat and other food and small manufacturers of energy. In other words, they are a great deal and worked very little. I have noticed this over and over again; those who reached a great age were thin and active; the number of stout people who

pass sixty is comparatively small.

Sir Sandford Fleming was a busy man at eighty. In addition to his great engineering feats and the introduction of the twenty-four-hour clock and standard time all over America, one of his greatest achievements was the All Red British Cable to Australia, New Zealand and the East, in spite of the fiercest opposition from the existing company. But this was not all. At the age of fifty-eight he was elected Chancellor of Queen's University at Kingston, Ontario. For nearly thirty years, from the age of fifty-eight to eighty-five he worked unceasingly in bringing the fortunes of the University to their present high level, proving once more that some of the world's best work has been done by men over sixty.

One of the most recent and most striking instances is the following which appeared in the *Standard* newspaper, which shows how absurd is the idea that people are too old at sixty to do useful work. Lord Mersey has already been useful for twenty-one years more than that and we wish him heartily another nineteen at least.

"A well-groomed, apparently middle-aged man, of medium stature, in neat morning suit, stepped briskly into the Divorce Court to-day, and energetically perched himself upon the judge's seat, without wig or gown. Junior counsel looked surprised, and suddenly the magic name of 'Mersey' was whispered round.

"It was Lord Mersey, formerly Sir John Bigham, returning to harness once again, at the age of eighty-one, to relieve the congestion in the Divorce Division, and incidentally to work off

some of his surplus energy.

"Arriving about 10.20, quite unostentatiously, ten minutes later he was officiating in the new west wing of the building hearing a series of defended matrimonial cases, and at eleven o'clock the third

case was in active progress.

"It was difficult to believe that this clean-shaven man, with a flush of spring on his countenance, and with clear, grey-blue eyes that swept the court with clear glance, was the famous octogenarian Law Lord who had tried the notorious Whittaker Wright

seventeen years ago, had presided over the *Titanic* and *Lusitania* inquiries, and was even a busy King's Bench judge about a quarter of a century ago. The white-wigged counsel facing his lordship contrasted strikingly, as, without glasses, he proceeded to devour the contents of various documents; while facing him were rows of counsel, of whom even several of the younger members wore gold or tortoiseshell spectacles. At once Lord Mersey got to business with characteristic dispatch. He was quite at home, as he had officiated as President of the Divorce Court in 1910 in succession to Mr. Justice Gorell Barnes.

"He was now cutting the 'Gordian knot' in an awkward legal dilemma. During congested periods it had been usual to transfer a judge from the King's Bench to assist; but this authorization was the prerogative of the Lord Chief Justice. As a new 'Lord Chief' had not yet been appointed to succeed Viscount Reading, the ex-President volunteered to officiate temporarily in the Divorce Division. Following the customary privilege of the Law Lord, who need not wear wig and gown in the Westminster Chamber, Lord Mersey officiated in the nonconventional attire of the ordinary well-dressed business man. His vivacity and alertness were remarkable. No word of witness or counsel had to be reuttered, and there was hardly any assumption of even the high-browed forensic wrinkle with

which justices customarily maintain the severe dignity of the court. With Lord Halsbury he was apparently enjoying the secret of eternal youth. On his arrival Lord Mersey was welcomed by a large number of well-known barristers who had previously practised before him."

Here is a brief account of a useful life and a happy death which appeared in a recent newspaper. "Mrs. Ross, of Ramscraigs, Dunbeath, Caithness, whose death at close upon 102 years has just taken place, was an extraordinary woman in many ways. She had never been indisposed to within four days of her death. She had never called in a doctor professionally, and never tasted medicine. outstanding idea in her philosophy of life was that old age came only to those who went meeting it. She herself scorned it successfully. Her panacea was cheerfulness, and her cheerfulness was obtained in brightening the lives of others. For several miles between her home and her last resting-place, at Barriedale, her remains were carried on the shoulders of the men of a wide district along the east coast of Scotland."

I have before me a recent newspaper article headed, "A woman dies at the age of 121. Fifty direct descendants in the War. Mrs. Bourque, who has died at Nenagh, Co. Tipperary, is reported to have reached the marvellous age of 121. She claimed to have had fifty direct descendants fighting

in the War, the majority of whom were wounded and two killed."

Mrs. Bourque's 121 years are by no means a record; some people have worked longer than that. In 1904 the regimental chaplain of the 18th Bengal Infantry was still conducting services in Calcutta at the age of 130. In 1908 Andrei Schmidt, a Russian, produced papers which showed that he was 136 years old and had enlisted in the Royal Battalion in 1796. The same year Hadji Raouf was 133, and still earning his living as a saddler in Constantinople, but he was a juvenile compared with Quo Ka Num of 160. He was generally considered by Europeans more likely to be 200, and he claimed to remember the time when iron was unknown to his tribe. China takes the palm for aged globe-trotters. In July, 1913, Dr. Che Choy, certified to be 145, arrived in New York en route to Canada. A few years before a Chinese woman reached Montreal. She had left her native land when seventy and had lived in Demarara for a hundred years. In 1912 in Europe there were 7000 living centenarians of whom 3888 were Bulgarians. I have mentioned in another place Metchnikoff's investigations as to the reason for this.

I have another cutting from a recent paper with a picture of Mr. Isaac Lamb of Ashe, near Aldershot, who is still hale and hearty at 101. At Christmas he was cracking nuts with his teeth. I have no

doubt from his picture that he often cracked a joke.

Another recent paper records that Mrs. M. A. Waller, of Sevenoaks, has just celebrated her hun-

dredth birthday.

A County Court could not carry on without a High Bailiff, and the man who fills that position is leading a useful life. Well, here is Mr. C. G. Godfrey, High Bailiff of Essex County Court, who has just celebrated his sixty-second anniversary in the office. Although ninety-one years of age he is a regular attendant of the court.

The town of Truro has just sent in its congratulations to its oldest inhabitant, Mr. James Hunt, on the occasion of his hundredth birthday. Mr. Hunt is not sitting in a chair praying for death to come and release him as many people think you must do when you pass ninety or even eighty. On the contrary he is still earning his living by working as a wheelwright. When he was ninety he was felling trees. He has a young brother of eighty and a daughter of seventyeight. While I was staying in the neighbourhood I heard of the death of a Mr. Spark, of Lovedean, a farm labourer who was earning twelve shillings a week and other valuable considerations up to a short time before his death at the certified age of 105. I was informed that he had never used much alcohol or tobacco.

Another interesting item is before me in the form

of a dispatch from Waltham Abbey. "Hale and hearty at 100. Waltham Cross woman who gets up at seven and does the housework. Mrs. Howell of King Edward Road, Waltham Cross celebrated her hundredth birthday to-day, and received many messages of congratulation. Still hale and hearty Mrs. Howell gets up at seven o'clock, does her own housework, and is still a regular attendant at the Baptist Church. This evening she is being entertained by the congregation and presented with a shawl. Mrs. Howell married for the first time at fifty-six and survives her husband, who died sixteen years ago. Except for one brief period she has lived all her life within sound of the bells of the ancient church of Waltham, Holy Cross."

Caithness is near John O'Groat's House at the very north of Scotland, and from all accounts the coldest and wettest spot in Great Britain. But the oatmeal is good and the fish is plentiful and cheap, and it is just the place to grow hardy centenarians in. Mr. Samuel Leask, of May, north of Caithness, has just celebrated his hundredth birthday in the house in which he was born. He read his daily paper all through the War, and wrote in a clear hand to members of his family on his birthday. He has been a widower for fifty years, has five children still living, twenty-two grandchildren and three great-grandchildren. His mother lived until she was ninety-six.

Mr. Robert Sutton who recently died at ninetyseven acted as sidesman or elder at Hendon Parish Church until a few months ago.

A few days ago the following appeared in the Daily Chronicle: "Doctor's hundredth birthday. Scotland's oldest Elder and oldest Freemason. The Grand Old Man of the British Medical Profession is a title well earned by Dr. S. S. Logie of Kirkwall, who has just celebrated his one hundredth birthday. He is believed to have achieved the triple distinction of being the oldest doctor in Britain, the oldest Freemason in Scotland and the oldest elder in the Church of Scotland. He spent fifty or sixty years as an active practitioner in Kirkwall, and although now becoming rather feeble he still takes a keen interest in all medical matters."

I shall frequently refer to activity as the secret of remaining young. Here is a case in point. "Horseman at ninety-two. Old Jack and his thirty-two children. Appleford, Berkshire. John Faulkner, known locally as Old Jack, celebrated his ninety-second birthday to-day. He is a short, erect man with a twinkle in his eyes and a merry smile. As a boy he was apprenticed to a racing stable and he has been connected with the turf all his life. To-day he was wearing riding breeches and a red waistcoat. 'I have brought up thirty-two children. I had twenty-one children in twenty-one years by my first wife, but I have only had eleven by my

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second wife. My youngest are eighteen-year-old twins. The remainder were all single births. My eldest son has twenty-three children. Some of his children are married and have children of their own.' When asked how many grandchildren and great-grandchildren he had he replied, 'Goodness knows—there are so many of them. I think there are more than fifty of them. When I was seventy-two I rode in the Abingdon Steeplechases.'"

I shall frequently say that the best way to be happy is to be useful, and the case of Mr. Levi P. Morton, who died recently in New York at the age of ninety-six, bears that out. He founded several banking houses and eventually became a Director of the Equitable Life Insurance Company, one of the biggest financial institutions in the world. Twenty years ago he held the position of Vice-President of the United States for four years. Another four years he spent as the Governor of the State of New York. He then became the United States' Ambassador at Paris, and did a great deal to cement the affection of the two Republics. This resulted in the Statue of Liberty by Bartholdi, which now illuminates the harbour of New York, being presented to the United States.

A few days ago a Peterborough man named Michael Martin Sargison residing at Gladstone Street, celebrated the hundredth anniversary of his birthday. He gave an interesting discussion of

his views and declared that he could still do a bit of work and had dug a bit of his grandson's allotment a few days before. "My long life," he said, "is due to careful living. I have not smoked a half nor yet a quarter of a pipe, but I like my glass of ale. It is not beer that hurts a man. If he eats as much as he drinks beer a man can live till he is a hundred." Mr. Sargison rises and retires with the sun and looks a grand old man. His hair is as bushy as that of a lad of eighteen. Here is a man who instead of retiring at the age of sixty and becoming so unhappy that he would probably have died at sixty-one has continued for twenty-six years to be useful and happy and incidentally to make thousands of others happy.

Dr. Edward Bunnett, corporation organist of Norwich, now in his eighty-sixth year, is still delighting audiences in that city with his performances on the organ in St. Andrew's Hall. Recently he gave two brilliant recitals, and on Saturday last he played during Princess Mary's visit to the rally of Norfolk Girl Guides. Dr. Bunnett began his musical career in Norwich as a Cathedral choir boy in 1842. Later he sang with Jenny Lind and other famous singers. For thirty-three years he was organist to the Norwich Musical Festival till 1905. He has written a good deal of popular Church music and organ compositions; but none of his works is more widely known than the evening service Bunnett in F, which is sung in churches all over the world.

It is well known to the world over that life insurance companies consider the occupation of manufacturing or selling alcoholic drink as a dangerous one, only accepting the risk at an increased premium. But here is a brewer who in spite of his occupation lived to 101 years. How did he do it? Mr. Henry T. Irving has died at Worthing at 101. He had carried on the business of a brewer in London and Salisbury, but was a lifelong abstainer.

Miss Elizabeth Warlow of Acton did not retire and die at the age of sixty, but kept right on with her work, and at eighty she was reciting the new universal language, Esperanto, before a crowded audience. From sixty to ninety-four she was busy as a linguist, philanthropist and educational expert and a writer on historical and social subjects. The

result, "happy and useful to ninety-four."

I think I am safe in saying that one of the happiest and most useful as well as one of the most beloved members of the acting profession is Miss Genevieve Ward, who at the age of eighty-two has just completed a tour of the provincial theatres, performing a leading part in that beautiful play, *The Aristocrat*. When asked for the secret of her wonderful energy she replied, "There is none except that I never overstoke my body." For breakfast she has a pint cup of cocoa, made with milk, and biscuits. Her principal meal is made at midday and a light meal before she goes to the theatre completes her food pro-

gramme. Miss Ward has found the way to be happy and useful from sixty to eighty-two by making others happy, and let us hope that she may continue to do so for at least another ten years. That this is quite possible is evident from the records of two well-known actors, Messrs. Betterton and Macklin. Betterton acted a young man part at the age of seventy-four and Macklin was ninety when he gave his last performance. He is believed by many authorities to have died at the age of 107, and to have lived in the reigns of five sovereigns. Macready lived to be eighty and Sir Charles Wyndham lived to eighty-four.

Anything which keeps one out of doors a great deal and keeps all the muscles of the body exercised will keep one young and happy long past sixty. That is no doubt why Mrs. Randolph Berens is an archeress at seventy-seven, going regularly every Monday afternoon to Bickley on the grounds of the West Kent Archery Society for her favourite pastime. Mrs. Berens is as straight as an arrow and although she has already won 536 prizes she is entering for the Grand National Championship which takes place at Malvern in July. No doubt she will have many young competitors and one of the best ways of keeping young is to keep in with young people.

Lord Roe of Derby is probably aware of this, for in his eighty-seventh year he attended a ball given

by the V.A.D.'s and danced the lancers.

I have before me the picture of a very handsome man who at the outbreak of War five years ago was eighty-nine years of age and was refused for service abroad. But none the less he has recently been mentioned in dispatches for services in connection with the organization of war hospitals. Can we not say that he has been happy and useful from sixty to ninety-four, his present age?

A good answer to the "too old at sixty" advocates is the case of Mrs. Garrett, who a few days ago was one of the voters at the Penge Urban District Council by-election and who will be 103 years of

age on her next birthday.

Archimedes discovered his sun mirrors at seventyfive and Theophrastus when over 100 was delivering
his famous lectures on character. Solon, Zeno,
Pythagoras and Diogenes were still men of great
wit when over ninety, and Democrites was still
railing at human frailty at ninety-five. Cato
learned to speak Greek when over eighty. Michael
Angelo and Titian were still turning out famous
paintings when they were ninety. M. Legowe,
Membre de l'Institut, was still writing his clever
volumes at ninety. Verdi, the well-known Italian
composer who has delighted us all, was still working
long past eighty.

Now what have all these instances to do with Happy and Useful from sixty to ninety? Simply this, that what they could do at a period when

medical science could not come to their aid, can be still more easily done by us who are protected and watched over in a thousand ways, day and night. Nearly every name mentioned in these pages has been that of a busy man or woman. Many of them were busy doctors who began their day at 6 a.m. and seldom finished it before 11 p.m. Many were gardeners who began long before 6 a.m. and worked steadily for sixteen hours. When I pass down our crowded streets and see many thousands of men hanging about from four till six every afternoon and note the unhappy expression on their faces I feel sure that very few, if any of them, will ever be happy and useful from sixty to ninety. They have killed the goose that laid the golden egg and while waiting for another goose which never comes their vitality is failing.

We have often heard that it is the pace that kills. But now comes evidence to show that it is the crawl that kills. Dr. Goldwater, after an exhaustive investigation, states: "The disciples of idleness die young, while those who advocate the practice of the strenuous life have long and useful careers. Most men who work hard and under high pressure live to a ripe old age and their usefulness at seventy is double what it was at thirty, by reason of the vast experience and the mentality kept keen by constant use.

"The popular belief that a placid existence and

early retirement from business is the best insurance for longevity is utterly disproved," he says, "but on the contrary constant activity produces a longer life, better health and greater happiness."

Summed up he finds that the pace that kills is the crawl, rather than the hustle and bustle required

by twentieth-century business methods.

CHAPTER III

HOW TO BE USEFUL AFTER SIXTY

APPINESS is so bound up with unselfishness that I had intended to give this chapter the title, "Thinking of Others." We all know who wrote the *Christmas Carol*; by his clever picture of Old Scrooge the immortal Charles Dickens contributed vastly more towards human happiness than even he ever imagined. I have induced a great many men and women to get the habit of reading the *Christmas Carol* once every year as Christmas approaches, and many have told me that by their doing so Christmas has become a season of enjoyment instead of one they dreaded and detested as so many do.

Who wrote that wonderful play, The Message from Mars, I forget, but he has certainly been a benefactor of the human race, and I shall never forget its performance by Mr. Charles Hawtrey. The Messenger as a punishment for some crime he had committed in Mars was sent to earth to seek out the most selfish wretch living here, and he was forbidden to return to that happy planet until he had

completely converted and reformed him. He finds him and tells him that in Mars they practise "Otherdom," the opposite to Selfishness, and Mr. Hawtrey tells him we call that Altruism here on earth, to which the Messenger replies, "Yes, it amounts to the same thing, but in Mars we practise it while on earth a great many of you only talk about it."

This play, although performed in a theatre, is a far better sermon than many of those preached in churches. Hundreds of the latter are forgotten before the day or week is over, while no one who has ever heard *The Message from Mars* can ever forget it as long as he lives. The writer knew a man whose entire life and character were changed.

In this play one sees a man, utterly wrapped up in himself and utterly oblivious to the sorrows and sufferings of those around him, and at the same time, in spite of his great wealth, lonely and miserable, suddenly reduced to absolute want. Then he finds the poor whom he had always scorned, but with whom he is now forced to associate, sharing their last penny with him to relieve his wants. He, in turn, shares what little he earns with those who are as poor as himself. For the first time in his life he knows what happiness is, and when they say "Halves, pardner, halves," he gladly gives a penny out of the twopence he earns by sweeping the crossing. He is eventually reclaimed, becomes one

of the kindest and most unselfish of men, and the Messenger from Mars returns from his banishment, his work accomplished.

How often we come across people who have ample means, beautiful homes, a staff of well-trained servants, plenty to eat, a carriage or car to ride in, and yet are abjectly miserable and unhappy. You may say that it is their own fault and they are only getting what they deserve; but this is not altogether true, for there are many who are anxious and willing to help their fellow-beings in distress, but do not know where to find them or how to go about it.

Quite recently the writer met with such a wealthy lady who for want of occupation gave way to foolish introspection, which means that she was always thinking of herself and brooding over her troubles, real or imaginary. We told her of a poor working girl who had been three years on her back with disease of the spine and who, moreover, had had to undergo a most serious and painful operation. She had no other means than a share of a little home supported by her father, a farm labourer, on sixteen shillings a week, and yet she never complained of her sad lot.

The really kind-hearted lady was only too glad to go to her rescue, with the result that she not only helped her herself, but has induced several well-off friends to share this labour of love. The result has

been magical and far more effectual than many bottles of drugs.

The longing to help others may lie dormant forwant of use, but it is never absent. It requires cultivation not stifling, and we can safely say that no one from sixty to a hundred can hope to be happy who thinks only of himself and his own pleasure, caring nothing for the happiness of those about him.

As our immortal bard so truly says:

The quality of Mercy is not strain'd;
It droppeth as the gentle rain from heaven
Upon the place beneath: it is twice bless'd,
It blesseth him that gives, and him that takes:
'Tis mightiest in the mighty; it becomes
The throned Monarch better than his crown.

I had an old friend a bachelor who had acquired a kind heart from a long race of "Otherdom" people, but in whom this willingness to serve and to spend and be spent had become suppressed in the course of acquiring a great fortune, bringing with it the misery it so often brings. It was pathetic to see him in his later years; how he longed to find some deserving object on whom he could lavish his wealth. I never appealed to him in vain on behalf of the sorrowing and suffering, and he contributed to many charities. He left large sums for others to dispense, but he lost much of the blessing he might have enjoyed had he been his own almoner.

One often wonders as one reads the daily papers

and sees that sad column in which one after the other is noted as leaving fifty thousand or a hundred thousand or two hundred thousand pounds, why anyone could thus leave so vast a fortune to be seized upon by tax-gatherers and others, without the certainty that a single pound of it will do any real good, when during their life they might have enjoyed every day and every hour that supremely happy feeling which comes from the performance of kindly actions.

If they do not know what to do for others let them think of the despairing men in the full vigour of life and usefulness who are told to give up their lifelong employment and go and beg in the streets for no other crime than that of being over sixty. If you are the wealthy head of your business no one can compel you to become old and idle the day you reach that age. But if you are a large employer spend a happy hour every day in looking after the usefulness and happiness of the man over sixty, who has for forty years or more faithfully and loyally helped you to make your fortune. Insist that he be kept employed as long as it is possible and safe and when he cannot do his former work find him something else, at a smaller salary, if need be, to keep him useful and happy. He does not want charity; he wants honest employment. He does not want more than he is worth. His family is grown up and he only has himself and wife to keep. You may want a night watchman-he is

especially suited for it because a man of sixty requires less sleep. You need a house servant to answer the door and keep the surroundings of your house tidy, and the man of sixty who has worked for you for forty years is just the man for such work. Dress him up to fill the part in the drama of life and he will soon learn the lines. I have such a man in my mind. The day before he was sixty he occupied one of the most responsible positions that one could well imagine. Perhaps you are a Director or the President or General Manager of one of our great railways and you are over seventy and your business takes you from London to Rugby. There are three hundred of you on that train and your lives are in the care of the man I have in mind. He will be sixty years old to-morrow, but to-day he is fifty-nine and the odd days. For twenty years he has driven that great engine at seventy miles an hour without an accident. An hour before the starting-time the engine was being tested at the shop by many different young men, but none of them was entrusted with running her at that fearful speed because they lacked the experience. My sixty years' old friend arrives; he has an unusually solemn look as he swings himself on to the great engine which is not a mere machine to him but a dearly loved friend. Why does he look so sad? Because this is the last day that she will spring forward with her precious load at the bidding of his touch. Every

one in the shop has a sympathetic look or word for the senior driver; they know how he must feel.

After the short run into the station where the long line of coaches awaits his coming, he steps down and caresses each rod and bearing. Here he thinks a nut is a thirty-second of a turn too tight; the young man at the shop has not allowed quite enough for the expansion of the bearing by the heat. Here the bearing brasses are a shade too loose. Here and there he puts a little more oil in the cups; a dry cup at seventy miles an hour means the snapping of the crank and the connecting-rod, pounding the cab to pieces. But he is not thinking of himself but of the three hundred passengers piled up in the debris. But nothing happens this trip and as the minute hand of the great clock in the station touches the hour the panting engine pulls up with a great sigh and the senior driver steps off to caress his darling for the last time. He will be over sixty in a few hours and the absurd too old at sixty law comes into force. One would think that if it is not advisable for him to drive the fastest engine on the line he might at least be given some less responsible job—to drive the local passenger engine which leaves a few minutes later than the fast train and stops at all the stations, and never goes faster than twenty or thirty miles an hour. Or again who would make a better inspector of fast engines than the man who has risked his life on

one twice a day for twenty years? However, there he was sitting in his little parlour with a very small pension, breaking his heart because he had nothing to do. I bethought me of the automobile workshop where my car had been repaired and where the owner had deplored to me the difficulty of getting a responsible man to take charge of the boyish apprentices. I told him about my friend and he asked me to send him along. I did so and was thanked heartily by both employer and employed a few weeks later for bringing them together; and yet it was a small service from one man over sixty to another man of the same age.

The propaganda of altruism has received a great impetus by the far-seeing action of General Baden-Powell in founding the Boy Scout movement. believe their motto is, "No setting sun must leave a day on which no kindly action has been done." One day last winter the writer was going along a poor street, in the performance of his duty, and as it was getting dusk he had great difficulty in finding either the street or the number of the house. He appealed to three boys standing near a lamp-post. They at once came to attention and the leader, after a whispered inquiry, led me in the right direction to the place I was looking for. On thanking them the leader said, "Do not thank us, Sir; it is we who should thank you, for we were longing for you to come, as we could not go home unless we

had performed at least some slight service before the night came on."

What great possibilities for being happy at sixty await these boys if they grow up with this Boy

Scout motto for their guide.

Gentle reader, of either sex, if you are rich and getting on for sixty, or if you are past that age and you have outlived your occupation, do not think for a moment that you have outlived your usefulness, for between sixty and a hundred you may spend many, many happy years, either with a small portion of your superabundant means, or if your means are only a little more than enough to meet your own modest requirements you have still your own personal service with which, like oil upon the troubled waters, you can smooth the way for many a stormtossed ship, overloaded with a freight of care, and none too strong to buffet with the sea of life. You may by a few kind words or a few generous actions, even without the expenditure of very much money, bring peace to those who are racked with anxiety.

How little it takes to save a human being from the utmost depths of despair was forcibly brought to the writer's notice some years ago when he spent a day with the Salvation Army at Hadleigh-on-Sea.

Here he found a thousand poor human derelicts such as he had seen shivering all night in the middle of winter under the arches of the railway bridge at the Thames Embankment, without an overcoat

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and with only a flimsy shirt and coat. These poor wretches were gathered in at the rate of about thirty per night and taken to an Army coffee house where there was a stove to warm them, and they were given a cup of coffee and a sandwich, after which they laid down on the warm floor for a few hours' sleep before being taken to the farm by train.

At the farm I saw them lured back to work and usefulness by the only method that appeals to men in their desperate plight, namely, by kindness and a liberal reward in food for whatever work they did. After working from seven till twelve in companies of a hundred under the leadership of a lieutenant who was an expert agriculturist, these men, poor and weak and broken down, yet accomplished a considerable amount of good work because they had an intelligent leader, and also because they knew, or soon found out, that the midday meal would vary considerably according to whether it was earned or not. Those who had done an honest morning's work, that is to say the best that they were able (not the best a well fed and strong man could accomplish) received a three-course dinner in a separate part of the dining-room from where the slackers who shirked their duty received a bowl of soup and a piece of bread. Those who had done middling well received a two-course dinner in the middle of the hall.

Then the Colonel took me over the building where the men slept, and the amusement hall where the thousand men in process of reformation were entertained by their own band taken from amongst themselves, while others performed or ran a moving-picture show. Then there were lectures on Canadian farming until each one was

competent to work on a Canadian farm.

Then I was shown photographs of groups of forty completely reformed men, "twice born men," as Harold Begbie says, about to leave for Canada under the guidance of a lieutenant and provided, not only with a ticket, but also with a goodly sum, being a part of their wages for the two years, the payment of which had been deferred until the day of parting, minus only a small amount required for their outfit of clothes. Then came a lot of photographs taken after their arrival at their distant homes two or three thousand miles farther west than the steamer could go. Then other pictures again of these same men a few years later with their sixseater carriage and pair of horses, starting from the door of their comfortable home, all their own, for the church a few miles away, and accompanied by their wife and children. The woman and her little ones had spent sad years in the workhouse while the father was being reformed and for another year or two until he had earned and saved enough money to bring them out to their new home in the Golden

West. They are growing wheat, thirty to fifty bushels to the acre on that virgin soil, to feed the teeming millions in the British Isles.

After seeing this miracle we inquired what it cost to perform it. Just one shilling a day for two years the friends of the Salvation Army pay to save a human soul and body from starvation and cold, and perhaps a desperate suicide's death in the dark waters of the river flowing so convenient to where they were found.

Not but what it costs more; but they earn almost enough to keep themselves afloat, and one shilling a day covers the deficit of one sixpence and allows for another sixpence per day for wages, which is placed to their credit till the time comes for them to leave. If you cannot find anyone to whom a shilling would be a real blessing if given directly from your hand to his, go down to that wonderful place, half an hour from Charing Cross, and if you are satisfied with the great work you there see done, hand a hundred or a thousand shillings to the honest Colonel in charge, who for his life of care and endless toil receives nought but his humble fare and uniform, and some fifty pounds a year. And then if you have a hundred or a thousand shillings more that you can easily spare, knock at the door of some hard-working medical practitioner in the East End of any great city, and ask him as a favour to allow you to accompany him on his rounds,

and he will tell you which person's life might be saved if they only had a little food or fuel or clothes. We will promise you, if you are such a one, that you will realise that he who gives to the poor directly, while he is alive and not after he is dead and cannot take his money with him, such a one will feel that he has lent his money to the Lord, and that a happiness, which like the Peace of God

passeth all understanding, will be his.

This life of "Otherdom" at sixty brings physical benefits, as well as spiritual ones, which are manifest not only to the benefactor, but to all his friends. One after another of them will stop him in the street and shake him by the hand and ask him what he is doing that he is looking so young, or what is the cause of that happy smile which is untwisting his knotted brows, and softening the sternness of his facial lines. In pursuing pleasure for oneself, one naturally seeks it in the easiest way, and that way is often in a thickly cushioned arm-chair in an overheated room with dangerous beverages within easy reach. But when you are seeking happiness by the practice of "Otherdom" in some of the ways already mentioned, you have to leave your luxurious surroundings, and gather your cloak tightly around you and go out into the night, or into the sunny day, and walk perhaps many miles with a noble object in view. This is quite different from an idle stroll for a few hundred yards, which brings

no blessing and very little material benefit such as a brisk walk would do on a frosty morning.

If one only walked five miles a day on these errands of mercy to others, one will have walked over eighteen hundred miles during the year, and that alone would make the weakest man quite strong; for as every one knows, of course, one does not get strong by resting—only weaker. The strength of the muscles becomes greater the more they are used, just as the strength of the will in resisting temptation to idleness and selfishness becomes weaker very time we give way to them. The brain, the heart, and the muscular powers of the system grow stronger with every exercise of their strength. Almost any boy will tell you that the blacksmith's right arm is twice the size of his left one, simply because it is used twice as much. So if you want to be strong at sixty keep busy, and one of the best busynesses is the busyness of making others happy.

Because a great many people die before they are sixty we have come to the erroneous conclusion that a man or woman is old at that age. There are thousands of cases on record of people being alive and well and carrying on a useful occupation from sixty to a hundred, and as far as we know many, if not most, of these people were quite happy.

When people are young and have thousands of joys and very few sorrows they sometimes say that they hope they will not live to be sixty or seventy,

but when those same people reach the age which they themselves have fixed as the extreme limit to which they wish to live, their views undergo a great change because their view-point has changed. To their surprise many of them find that new joys have taken the place of the ones that have passed, and that the sorrows which they dreaded to meet in old age have not come, and so they find the world so pleasant a place to live in that they would fain tarry another twenty or even forty years longer.

CHAPTER IV

HOW TO KEEP YOUNG AT SIXTY

HIS has quite a bearing, more than one would think at first sight, on being happy and useful at sixty. Some men who are not sixty yet are doing all they can to make themselves look older than eighty. They wear a long white beard, tinted here and there by the colour scheme of their breakfast, and their dress is in keeping with their beard. Those same men if they shaved their faces clean, gave away their very old clothes and bought a smart suit and hat would easily look like forty; some of them have fresh young skins beneath their disguise. If one feels old at sixty and takes no interest in the affairs of the day or in what is going on about them, but only sits by the fire thinking of the past, perhaps with useless regrets for lost opportunities, or of the present which he cannot enjoy, it will be difficult to be happy. But if on the contrary one keeps one's heart young and always ready like the busy bee, "To improve each shining hour, and gather honey all the day from every opening flower," a great deal of sweetness and happiness may be his.

There are certain physical conditions which are absolutely necessary for anyone to feel young at sixty, and the old saying is true that every one is just as young as he feels, but not in proportion to the number of years through which he has lived.

One of the most important, and also one of the most pleasant, ways of feeling young as one grows older is to keep in touch with young people. It is worth while spending a great deal of time and energy, and even money, on cultivating the friendships and affection of the young people among one's relatives and friends, while the mere fact of contributing towards the happiness and enjoyment of these young people has a remarkable influence on the enjoyment of one's own life.

A pantomime or a circus if viewed from a lonely box by oneself fails absolutely to bring any pleasure, because as we get older such things pall upon our palates. But to take a party of enthusiastic, joyful, laughing, young people to the ordinary seats and to watch them while they are looking at the antics of the clown or the dancing of the fairies, will give a lot of enjoyment to the man of sixty as he sees how happy and appreciative these young people are. Besides, young people are generally optimistic and enthusiastic and have a merry atmosphere about them due to their capacity for enjoyment. By keeping in touch with them one catches some of their joyful spirit, which, as every one knows, is

very contagious. That is a contagion against which no one wants to be vaccinated—the contagion of spontaneous mirth.

This reminds me of a well-known knight who, rightly or wrongly, was credited with having said at a lecture before the Young Men's Christian Association of London "that they should endeavour to rub elbows against the rich whenever possible as some of their wealth was sure to stick to them." Perhaps he only meant to say that we are all the result of our surroundings; and in that sense he was right. I would say to the Old Men's Association, if there were one, "Keep in touch with the bright and happy and some of their happiness will stick to you." If one could afford it, one need not limit his providing of enjoyment, to taking those young people to the theatre alone. Why not entertain them to a simple little dinner before the play? Why not gather them together in a private motor bus, and distribute them to their homes when the affair is over? Why not make that dinner still more pleasant by engaging two or three musicians who have to be at the theatre at a quarter-past eight to come to your house from seven to eight and amuse your young guests with their joyful music, whilst the feast is going on? It would take a very small expenditure of money to pay for an hour every evening for these members of the orchestra—who are often far from rich, and

to whom a few shillings thus spent would be a godsend in their little homes. Perhaps there is a delicate wife and a sick child who could do with a little more nourishment and a few warmer clothes. Just think of all the people you can help while you are giving this little entertainment, and you will see that you could hardly help being happy when the day is done. Then in the afternoon, when school is over, you may be able to find some child who is overflowing with happiness, who would be willing in exchange for a few kind words, and perhaps a few little presents, to join you now and then in your lonely walk, and with his, or her, joyful prattle, bring peace and happiness to your troubled mind, simply by crowding the trouble out and making you forget it.

But there is a more serious side to the question How to be Useful and Happy after Sixty, and we

will try to deal with this in the next chapter.

CHAPTER V

IS THERE ANY MODE OF LIVING WHICH LEADS TO LONG LIFE?

HAVE asked a great many to tell me this secret; here is what a few of them wrote: Miss G. M. M., of Kent, says, "I am just seventy and I feel about thirty-eight. The other day I went forty miles on my tricycle without being overtired. It is twenty-seven years since I ate any meat, but I was not brought up without it. I eat eggs and fish and soups. I am not a vegetarian, but do not touch beef, mutton, chicken or bacon. I believe in cold water inside and out; I always take cold baths. I tasted wine very occasionally till I was about twenty, but never since. I always sleep with open windows. Without being obliged to work I have always interested myself in my fellow-creatures and have found plenty to do. I love early rising and never keep late hours. This way of life with the peace of God in the heart will surely delay old age and make it happy and peaceful when it does come."

Here is a letter from Miss M. M., of Chatham:

"It is true I have reached the age of one hundred and I am not now confined to bed. I can walk about my room and I can see to read and I can hear well. I have never tasted alcohol and I had godly parents who taught me the fear of God in my youth and He has guided me all along. I have taken common healthy food. Until three years ago I was able to have a class of young people in my own room on Sunday afternoons. I can truly say that goodness and mercy have followed me and I look forward to the end without a fear. I worked for thirty years as a Bible woman, for thirty-four years at Miss Daniel's Soldiers' Home, Chatham. I have many friends who come to see me, and I love them all."

Mrs. Jane Dawkins, Chestnut Grove, Nottingham, reached a hundred years of age a few years ago. She received a hundred letters of congratulation and inquiry and thought it would be a pleasant task to answer each one personally. But her grand-daughter wrote me an interesting letter, from which I cull the following facts: Mrs. Dawkins has been a lifelong abstainer. She spends every hour in the open air that weather permits; mostly in her garden. She eats whatever is going, bread, meat, vegetables and fruit, but of meat sparingly. She does not drink much water, but is a great believer in personal cleanliness, and often says that cleanliness is next to godliness, and if that text is not in the

Bible it ought to be there. She is a great believer in sunshine. She has a simple, childlike trust in her heavenly Father, which has solved in her life half her difficulties. She is a living force at a hundred because she has more than existed in her early life. She has certainly been useful and happy from sixty to one hundred. She is able to read without glasses, can hear tolerably well, and can carry on an intelligent conversation. She goes to bed at ten o'clock. She can walk quite a distance, and needs no help in getting on and off the cars. She is a regular correspondent with many friends.

Of all the men I have ever heard of there is no one to equal the usefulness from sixty to ninety of Mr. L. Langly, of Little Churt, Ashly, Kent, who has kindly and with great modesty given me a short sketch of his life. Mr. Langly was born in 1825 and was, when he wrote this letter, ninety years old. "My life has been an active one from the age of twelve. At the age of fourteen I was apprenticed to the hand-made paper trade in this village, and continued till 1849, when I was twenty-four years of age, working frequently from four o'clock in the morning.

"I was then elected Relieving Officer for six parishes, carrying out the duties of same, walking regularly seventy miles a week. This office I held for twenty-seven years to 1876. (During these twenty-seven years Mr. Langly walked 88,280

miles.) And while holding the above office I was appointed collector of rates and taxes for three parishes. This office I held till 1890, also at the same time holding the office of land steward of an estate of three thousand acres. This last I held till 1913 when it was sold. From 1877 till 1912 I held a game licence, and during the season spent two days a week shooting and walking over twelve miles a day. Although I do not shoot any longer, I still go out with those who do, and carry the guns, etc., thus getting fresh air and exercise. My diet from the age of sixty: generally meat for breakfast and dinner. I do not smoke; I seldom drink beer; I generally take a small quantity of Scotch whiskey with dinner at midday and at night with light supper (no meat) I take one and sometimes a second glass.

"My walks now, except when with friends who are shooting, are from three to five miles daily. I retire to rest about 10.30 and rise at 8 a.m., and sleep well. I have not retired from work, as I have a large garden, I am a Manager for our school, a member of the Parish Council, and also member of the District Council and agent for the Norwich Fire Insurance Society since 1871. I have just been elected to take the register fixed for the 15th August. I am a special constable and correspondent for this parish. I believe I am the oldest census enumerator in England, having taken the census for this parish

from 1851 to 1911, both inclusive. I am thankful that I have very good health and can walk several miles with ease and comfort. I was married at the age of twenty-four, and my wife and I have lived in this cottage ever since until her death at the age of ninety-three. I omitted to answer your question about water. I have for the last forty years taken a glass of cold spring water the last thing at night and the first thing in the morning, and require no other medicine."

Several men over ninety to whom I wrote asking them to tell me their secret of long life, replied that their occupation required them to walk on an average ten miles a day every week-day, or three thousand miles a year, and as long as they continued their work it was no trouble to them to do it. Most of them told me they were able to get good, pure, spring water which they drank freely, not using any alcoholic beverage and not smoking for many years. They lived very simply, went to bed and got up early, went to church every Sunday, and were at peace with God and man. In fact, their lives were just the ideal lives which any doctor would sketch out for anyone who consulted him as to the best way to reach a hundred years of age, and if we take these points up one by one we can see how they were kept in health up to an advanced age.

First, let us see what drinking spring water has to do with longevity. A great many people die

between forty and fifty from Bright's disease of the kidneys. This begins in most cases by eating too much nitrogenous food, which if not completely burned up is secreted as uric acid. Now if a patient drinks six tumblers of spring water, or forty ounces a day, there will be no crystals of uric acid and the kidneys are saved. There are many kinds of spring water. There is some which wells up from a bed of chalk or limestone, which is saturated with carbonate of lime, and this water is not so good as rain water for dissolving impurities in the blood. There are some springs where the water is purer than city rain water because it has been filtered through a bed of moss on a mountain-side, and rich people travel hundreds and in some cases, as at Poland Springs, Maine, thousands of miles to drink the water. But the poorest person can catch the rain off his roof and strain it through a few layers of muslin or canton flannel, and then boil it, and it will do just as much good as the purest spring at a health resort. But there are other spring waters, such as at Vichy in France, where the water is more cleansing to the blood because it contains a natural soap in the form of bicarbonate of soda and carbonic acid gas, which combine with the injurious acids and wash them out of the system more quickly than rain water would. There are many people in England who could afford to drink a bottle of Vichy water every day and who might by so doing live

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twenty or thirty years longer than they would otherwise do; but they do not know about it.

Many people have lived to be ninety because they had none of these poisonous materials in their blood, which not only injure the tubules of the kidneys, but also the walls of the arteries, setting up an inflammation in them which at first thickens and then hardens them. The loss of elasticity resulting therefrom leads to disease of the heart because it has to pump the blood into hardened arteries instead of soft elastic ones. This causes increased blood pressure equal to 200 millimetres of mercury instead of 130 millimetres, causing the heart to hypertrophy in some cases, or to dilate in others in which latter case the valves no longer meet between the beats and then there is regurgitation due to leaky valves. By drinking plenty of water and eating very little meat and walking a great deal, which makes you take long breaths and breathe in a lot of oxygen, all this injurious acid is burned up and washed out, so that your arteries remain elastic as in youth and there is no increased blood pressure and no diseased heart, and so they remain boys at sixty and even to ninety.

Sir William Osler often used to say that one is as young as his arteries; so that is why you will see a man of ninety running two or three miles on a cold night to get his feet and hands warm.

We often hear doctors saying to elderly people: "Don't drink liquids any more than you can possibly help; and don't take any salt with your food for fear it will make you thirsty." But these doctors fail to grasp the situation. A man has a high blood pressure because of poison called ptomaines absorbed from his bowels, and this causes a spasm of the arteries and sends the blood pressure up. But through washing out his blood by drinking six glasses of water a day the blood pressure will actually come down, simply because the heart will beat more quietly into arteries which are no longer in a state of spasm. If they would say don't drink sixty ounces of wine or beer they would be right, because these things not only do not wash poison out but they pour poisons in which inflame and irritate the arteries and heart, instead of soothing them as water does. From what I have just said the next point is easily understood. It is easier for a poor man to reach a hundred than it is for a rich man. Rich men very often become like the wheels of a watch, they must go round in the company of the other wheels. Rich men are so restricted that it is difficult to avoid doing the things which they ought not to do. For instance, they have to entertain; to do so they have to keep a good cook who is a culinary artist. If they eat what she cooks they will die or lose their health; if they don't eat what she cooks she will be angry and leave them;

in which case they may save their health, but they will surely lose their friends. Of the two evils they choose the lesser: they eat her cooking, keep their friends and lose their lives. Some one has said: "It is easier for a camel to go through the eye of a needle than for a rich man to keep his health." A few Scotchmen, however, can do it. I have known some of them go to an hotel where they had to pay a pound for breakfast whether they ate it or not, and when the bill of fare was handed to them from which to choose one of the hundred dishes, they handed it back without looking at it and asked for a plate of porridge and milk.

In the same way I have known rich ladies lose their health and die twenty to thirty years before their time in order to preserve the health of their horses and their husband's social position. If they went for a long walk every afternoon instead of driving or as they humorously call it, taking carriage exercise, they would save their own lives and their horses would get rheumatism. I have at different times induced many rich men to give up eating a big lunch in the middle of the day and to have their afternoon tea at one o'clock instead of at four.

A French physician has just written an interesting book, in which he points out that elderly men have two great dangers to fear, namely, a good cook and a young wife.

He gives details of a number of wealthy men who consulted him with a view to the prolongation of their lives.

Sixteen of them followed his advice and on an average added thirteen years to their expectation. Seven of them said "Let us eat, drink and be merry to-day, even if to-morrow we die," and these seven died on an average four years earlier than their expectation.

One hardly needs to go into the details of the above-mentioned dangers; the good cook must cook many appetizing and tempting dishes and naturally feels hurt if her efforts to please are not appreciated. Rather than offend her, and perhaps lose her, he eats more than he should, and so day by day he is digging his own grave with his teeth. We can all remember such cases; and others who escaped the danger. Of the latter I can recall many, but I will only mention two. One was a great surgeon, who had attained all the honours which his king and country, the medical profession, and his fellow-citizens could bestow upon him. He was obliged to entertain a great deal, for which a good cook was inevitable. He was blessed with a very wise wife of middle age, who arranged his breakfast and lunch to suit his case. His breakfast consisted of oatmeal porridge, cooked the night before in a double-bottomed boiler, followed by a cup of tea and a few slices of toast. His lunch

was another plate of porridge and milk, followed by a glass of Tarragona wine and a biscuit. As he was out to a dinner or had guests at home nearly every night, he had to taste the good cooking; but of this he was so careful that he was still in splendid health and working hard until his eightieth year. The second case was a young man who had great possessions, but who had had what was practically a death sentence passed upon him. He had Bright's disease of the kidneys. To please the cook he was eating meat three times a day. His urine was scanty, albuminous and loaded with urates, and so highly coloured that it looked like blood. He was induced to stop eating meat for breakfast and lunch, and to take tea and toast twice a day instead of coming home to a heavy lunch, and by walking down to his office in the morning and back at night the albumen soon disappeared and he has enjoyed good health ever since, now some twenty years.

The third case in which careful diet prolonged life was the writer's own father, whose occupation was a sedentary one, but who kept in such good health that he was only absent from his office through illness for a half day in fifty years. He had his breakfast at 8 a.m. and his dinner at 7 p.m., and for forty years he had nothing but water between the two meals. During the next ten years he had a cup of tea and a thin slice of bread and butter at one o'clock. He held his position till he had reached the age of

seventy-five and was still in good health, but a year after he retired he died at seventy-six. A doctor has recently written the following all round good advice calling attention to the fact that the time when one should be careful of his health if he wishes to reach a happy old age is forty: "At forty a man should be in his prime; but he is about at the top of the hill, and the level stretch is not a very long one, though the descent is hardly noticeable at first. Still, it must be allowed for, and a gentle application of the brakes has already become advisable.

"He is like a piece of elastic that has seen some service and does not spring back to shape quite so smartly when slightly overstretched. His arteries are becoming more rigid, his bones more brittle. He does not recover so quickly from fatigue or severe illness as he used to do, and his whole physique has become set, or adapted in conformity with his habit of life, any sudden departure from which inflicts a decided strain.

"He would be well advised to cultivate moderation in all things, realizing that excess in any direction is now more liable to be fraught with serious consequences.

"Should he at any time overstep the prudent line—as who does not occasionally?—he would be wise to settle the score with Nature at once, not waiting till she presents the account. This to be done not

necessarily by taking medicines, but also by a period of more strict moderation than usual on that particular point of transgression. Exercise is just as necessary for him as ever, but here againmoderation. He will often proudly boast that he can endure physical fatigue better than when he was a lad. It may be, but he will find that he cannot recover from an excess of it nearly so quickly. He should particularly avoid over-eating. This is, perhaps, his greatest danger. His metabolismthe breaking-down and building-up of the body tissues—is less active now, so he does not need so much food as heretofore. Should he unwisely continue to take it, the result will be a general over-loading of the system, throwing an undue strain on many of the internal organs, which will surely have to be paid for.

"If he has been so foolish as to neglect his teeth in the past, their care becomes now increasingly important as the years go on, and a timely application to the dentist may possibly add many years to his life. A jagged tooth causing sore tongue becomes a real danger now, and good health depends more than ever on a healthy mouth and efficient

mastication.

"The eyes, too, commence to undergo an alteration, and presbyopia, or old sight, begins to show itself—very slightly at first, but with ever-increasing insistence. He will hold his newspaper farther off

than before, though at first hardly knowing that he does it. It is useless to put off the evil day. When glasses have become necessary, he should not wait for eye-strain to make them imperative. True, his distant vision may be as clear as ever; but that is not his working vision, and he should remember this.

"To the man over forty I would say 'Live at about tenpence, and you will do well for quite a long time; but go on the whole shilling and—

you may not."

The Registrar-General for Scotland reported the death of sixteen centenarians in 1894. The three oldest were each 105 years old. Two of them had fallen into poverty, but were supported by charity; the third was the wife of a poor gardener. The thirteen others all belonged to the poor class, either old servants or the wives of poor citizens. The same report recorded the death of five men over a hundred. One was a weaver, one a fisherman, one a gardener and one a labourer. But it depends where the rich man lives whether he will reach eighty or ninety years. If he lives in Great Britain his chances are greater than in France, because well-to-do men in this country know how to develop their vitality and power of resisting disease by golf and other outdoor sports. Instead of succumbing to the temptations of alcohol, tobacco and rich food, they consult one of the best doctors and abide scrupulously by his directions. By all these means

many rich men reach an advanced age. There were among last year's deaths *:--

					£
Mr. George Courtauld, wh	o died	at	90	and left	2,146,695
Mr. Howard Morley	,,	,,	73	,,	1,539,429
Sir W. Greenwell	,,	53	72	,,	1,400,000
Mr. G. Barbour	,,	,,	78	,,	1,311,253
Sir J. K. Waddilove	,,	,,	79	,,	1,250,000
Sir T. Cook	,,	,,	75	"	1,083,972
Sir A. Vickers	,,	,,	80	,,	886,584
Mr. G. McBeth	,,	,,	75	,,	880,333
Hon. W. H. Portman	,,	,,	90	,,	816,650
Mr. A. E. Mundy	,,	,,	70	,,	710,273
Sir W. H. Nearling	,,	"	85	"	641,038
Earl of Eglinton	"	"	71	,,	572,088
Mr. F. C. Wild	"	,,	69	,,	546,532
Baron Sherborne	,,	; ;	88	,,	537,126
Mr. J. Coles	"	,,	86	19	461,780
Mr. J. C. Varr	,,	"	82	- 9	424,307
Mr. F. A. Bevan	,,	"	79	,,	410,879
Mr. F. Arkell	,,	,,	85	,,	397,045
Sir J. Glover	"	"	90	"	373,992

These, out of many others, show that although difficult, it is still possible by the aid of fresh air and exercise and a good doctor to be very wealthy and yet live to eighty or ninety. Professors, clergymen and doctors live on an average only to fifty-two years, while farmers and gardeners live on an average fourteen years longer to sixty-six years. Telephone girls on an average die at thirty-nine. Farmers

^{*} Taken from the Daily Mail Year Book.

often envy the easy life of the Government employees but they do not know that the average duration of these lives is sixteen years less than the average life of the farmer.

Some writers claim that clergymen live longer than most people, and this is borne out by the Œcumenical Council at Rome in 1870 when out of 766 Bishops and Archbishops who took part in it there were three Bishops ninety-six years old; two of ninety; twenty from eighty to eighty-five; forty-six from seventy-five to eighty; seventy-nine from seventy to seventy-five; one hundred and sixty-four from sixty to sixty-five; one hundred and thirty-three from fifty-five to sixty. The average age of the members of the Academy of France was seventy-one years. In England Count Mansfield was still working at the House of Lords at ninety-two. In the United States seven Presidents lived to over seventy. They were:

J. A. Adams died at	81	Filimore died at	74
Van Buren ,,	80	Tyler ",	72
Jackson ,,	78	TT	71
Buchanan "	77		

British Prime Ministers lived rather longer:

Gladstone	died at 89	Disraeli died	at 77
Wellington	,, 83	Goderich "	77
Palmerston	,, 81	Aberdeen "	76
Grey	,, 81	Salisbury ,,	73
Russell	,, 80	Derby ,,	70

Heredity plays an important part, other things being equal. General Cunningham Roberts relates that his aunt, Mrs. Elizabeth Gray, who died at 108, was survived by eleven brothers and sisters, of whom two died at ninety-one and ninety-two; two at eighty-seven; two at eighty-six; three at seventyseven, eighty and eighty-five, and one at seventy.

Dr. Benjamin Richardson formulated a rule for finding out the age to which each one would live. Add together the age at death of your two parents and your two grandfathers and two grandmothers and divide them by six. This will give a near approach to your own age at death.

EXPECTATION OF LIFE

The table (in which the expectancy is somewhat lower than that of some others) is copied from Bourne's Manual (English Experience, No. 3,

Males). See page 77.

A rough rule for arriving at the Expectation of Life is this: Between the ages of twenty and fortyfive use the fixed number ninety-six. Deduct the present age of the person from this number, and half the remainder gives his expectancy. Between the ages twenty and thirty the result is a trifle below the average: and over forty is slightly above. For estimating the expectancy of those over forty-five take ninety as the fixed number, instead of ninety-six as before.

Com- pleted Age	Years	Com- pleted Age	Years	Com. pleted Age	Years	Com- pleted Age	Years
0 5 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	39.91 49.71 47.05 46.31 45.54 44.76 43.97 43.18 42.40 41.64 40.90 40.17 39.48 38.80 38.13 37.46 36.79 36.12 35.44 34.77 34.10	31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	32.09 31.42 30.74 30.07 29.40 28.73 28.06 27.39 26.72 26.06 25.39 24.73 24.07 23.41 22.76 22.11 21.46 20.82 20.17 19.54 18.90	54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74	17:06 16:45 15:86 15:26 14:68 14:10 13:53 12:96 12:41 11:87 11:34 10:82 10:32 9:83 9:83 9:36 8:90 8:45 8:03 7:62 7:22 6:85	77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97	5·82 5·51 5·21 4·93 4·66 4·41 4·17 3·95 3·73 3·34 3·16 3·00 2·84 2·69 2·55 2·41 2·29 2·17 2·06 1·95
30	33·43 32·76	52 53	18.28	75 76	6.49	98 99	1.85

Taking the population generally, the expectation of life in women is about three years more than in men. During the child-bearing period the expectation of women is somewhat less, but it rises, and is greater than that of men, after the fiftieth year.

CHAPTER VI

ACTIVITY THE KEY-NOTE TO LONG LIFE

SEVERAL times in the course of this book I have pointed out that continuous work either of mind or body or of both is absolutely essential for reaching a great age. Here, for instance, is a railwayman named Samuel Rhodes who has just died, aged one hundred, at Swaby, Lincolnshire, who began work at eight years and continued almost without intermission for eighty years.

Here is a woman who is not only alive at the age of ninety, but she has just become a bride for the fourth time. Let us see what kind of a life she led to be so well at ninety. The three husbands whom she lost were trappers, a hard and precarious calling, and the wife often shares the hardships of her husband. Two died of starvation and one was frozen to death. She and her third husband were camped a hundred miles north of Stanley Mission, British Columbia. In the dead of winter game became so scarce that they were faced with starvation. Then the husband fell ill and only food would

save him. With the two babies, one of whom she was nursing, Mrs. McKenzie started the hundred miles trip with a famished dog team. Tucking the babies in the sled, she fastened the harness around her own waist, when after thirty miles the dogs had died, and then she continued for ten miles. Then one of the babies died. She wrapped a blanket around the tiny body and placed it deep in the snow and out of the twigs of a pine tree fashioned a pitiful little cross which she placed over the grave. Then she went on for sixty miles with the other baby. When she arrived at the mission volunteers hurried off with food to her husband, but he was dead. Surely her heroism and energy have given her the right to live. We wish her still many years of useful and happy life.

I have before me a happy photograph group consisting of Mrs. Baxter, of Mansfield, age ninety, with her daughter, age seventy, and her grand-daughter, age fifty, her great granddaughter, age twenty-nine, and her great-great-grandson. She looks as if she had lived a useful and happy life from sixty to ninety.

Madame Dayne Grassot, a leading French actress, has just made her farewell bow before the footlights at the age of eighty-nine. Think of the thousands she has amused, thereby leading a useful and happy

life very nearly from sixty to ninety. If the Psalmist had to write his dictum over again to-day he might say the life of man is fourscore years and ten, and if he has taken good care of his health he may be happy and useful for another ten years. The span of life is certainly lengthening, as is evident by the great number of old age pensioners. Ireland is especially famous for its elderly people.

A most happy and useful life has just come to an end in Montreal where Mrs. James Gilmore has died at the age of 104. She came to Montreal as a young girl from County Longford, Ireland, where she was born in 1816, when Montreal only had a population of 16,000 instead of 800,000 which it has now. Miss Jane Moffatt has just died at the age of 100 and no doubt was as happy as she was useful, for nearly all her life she has been an active worker for the Women's Auxiliary Association.

The suburbs of London produces some happy and useful people not only from sixty to ninety, but even to 104, as witness Miss Betsy Wotton, of Harrow-on-the-Hill, who is still alive and well at the latter age. Her eyesight is not so good as it was, but she is bright and cheerful and enjoys a joke, has an appetite that many might envy. At a quarter to seven every day she eats a rasher of bacon; for luncheon she prefers boiled mutton

and onions and milk puddings, and after bread and butter for tea she ends the day with some fish for supper, and she sleeps well. She is up by 9.30 in the morning, and her housekeeper says she never sits still, but likes to walk about.

To her menu yesterday she added two substantial slices of birthday cake, and when a *Daily Mirror* reporter left last evening she was eating sweets and talking to her friends.

Some of Miss Wotton's most interesting memories are those of the old toll-gate days, which, with the highwaymen, she remembers well. In her younger days she collected tolls in Bayswater, where Queen's Road now is. She has lived in her present home for fifty-two years. Until she was a hundred years old she attended to all her business and some property which she possesses.

It is nice to read in the paragraph before me, entitled "Scotland's Centenarian Doctor." "On the occasion of his hundredth birthday yesterday Dr. J. S. Logie, of Kirkwall, received a message of congratulation from the King. Dr. Logie, who took his degree at Edinburgh in 1842, is the oldest elder in the Church of Scotland. What a significant sentence, nearly eighty years a doctor; an elder of the Church; out in all weathers day and night in one of the bleakest and most northerly outposts of our Empire ministering to the needs of the poor

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fisher-folk and yet finding time every Sunday, probably twice a day, to serve in His Master's House." If anyone ever lived a useful life surely he is one; and from other sources I have heard that he has been very happy: happy and useful not only from sixty to ninety, but almost to a hundred.

A busy life, a useful life and a life of hard work and even some hardship generally is a happy life; and going regularly to church would appear to add a good few years to one's life. Many of my over a hundred years old correspondents have mentioned this fact as contributing to their reaching an advanced age, that they were brought up by pious parents in the fear and love of God.

One of our greatest generals told me the other day that during the War the greatest rest and comfort he derived from his "leaves" was the time he spent at St. Columba's Church in London, where he found perfect peace.

I wrote to several of these people as above mentioned who had reached an advanced age and asked them to kindly let me know to what they owed their great age; nearly every one of them replied that they drank one or two glasses of pure cold spring water before going to bed at night and one or two more the first thing in the morning.

Most of them also told me that alcohol had

never passed their lips and most of them had never tasted tobacco. In recent years we have found out that alcohol is one of the greatest causes of a fatty heart; also of high tension; and that tobacco weakens the heart action and makes it irregular.

I have another interesting paragraph before me: Sir William Carter has just been re-elected Mayor of Windsor for the sixth time. He began work at fourteen and has been working ever since. He said, "I don't feel any the worse for it; in fact, I think work is good for one's health, as it keeps the mind constantly engaged and there is no time to worry, and so one is kept young." Sir William is over seventy, but still rides his bicycle and works in his garden.

The human machine is the most wonderful of all machines, and like all machinery it is better for it to wear out than to rust out. He also says truly that it is better to work than to worry. I have heard many good sermons on the text, "Take no thought for the morrow"—which means take no carking care—"Sufficient for the day are the troubles thereof." As we face our troubles bravely they gradually grow less. When travelling across the Western Continent one sees the chain of snow-capped peaks of the Rocky Mountains a hundred miles away. It seems impossible that your tiny

engine will ever get over that impassable barrier. But don't worry until you get to them. The engine pants and puffs as it winds along one canyon after another, but you are hourly getting higher and higher and then you suddenly notice that the rivers are running the other way into the Pacific Ocean and you have safely passed the Great Divide. Is it not so very often with our lives; the difficulties before us seem insurmountable when seen at a distance, but if we bravely and steadfastly push on they will disappear when we reach them until we too shall pass the Great Divide and calmly rest on the Ocean of Peace.

Another paragraph, showing that many people reach and pass their hundredth year in good health, says: Mrs. Mary Coleman, of Roydon (Epping), has just celebrated her hundred and third birthday and is still in good health. She has lived in her present house forty years and has had ten children, the oldest being seventy-seven years of age. She has a family circle of forty-six, including twenty-five grandchildren and eleven great-grandchildren. In the same notice it says that Mr. Stubbins, of Worle, Somerset, will celebrate his one hundred and fifth birthday to-day (18/7/20).

I have already mentioned that leading a good life and spending a few hours every week in church is no barrier to long life. The Gee Memorial medals

for the longest Sunday School attendance have just been awarded as follows:

91 years attendance Owen Jones, age 94 Robert Owen 88 ,, 91 . . John Jones 87 ,, 98 . . ,, 90 Miss E. Pugh 87 Evan Jones 87 . . 84

This illustrates another truth that habit is the facility of doing a thing by frequent repetition. Most of these good people got the Sunday School habit while only three years old, but once the habit was acquired it was easier and more pleasant to do the right thing than the wrong one. I have no doubt that what they did at three years old and continued to do all their life had a great deal to do with their living so long. No doubt they learned to say "Honour thy father and thy mother that thy days may be long in the land." The above five Gee medal winners are ninety-eight, ninety-four, ninety-one, ninety and eighty-seven and are not dead yet; let us wish them that they may still be attending Sunday School at one hundred; I am sure they are useful and happy.

An editor of one of our "dailies" while commenting on the great age of Miss Wotton falls into a mistake when he says, "It is doubtful whether many will be found to desire to emulate her example. Old age, except to a very few, is a sad business.

Friends have fled and with them energy and hope. After all one would weary of the troubles of Mr. Lloyd George who has followed the political worries of Sir Robert Peel and the Duke of Wellington, while there must be such a depressing sameness between private woes at forty and ninety that the average person may be forgiven if he prefers a term put to them at an earlier age."

From the opinion of the editor we beg to differ. From an intimate acquaintance with many people who were useful and happy from sixty to ninety we feel quite sure that he is wrong. We have not the pleasure of the personal acquaintance with our energetic and happy Prime Minister, but judging by many photos of him we would say that he is, and will be, not only a very useful but a very happy man as long as he is spared. None of our Prime Ministers have lived to ninety, but Gladstone nearly did; and by consulting a list of ten of them on a previous page many of them were useful and happy for ten to twenty-nine years after passing sixty.

Let us ask Miss Genevieve Ward if she agrees with the gloomy editor. She recently performed the part of "Volumnia" in *Coriolanus* at the "Old Vic" and scored a triumph at the age of eighty-three. The theatrical critic writes to his paper: "Those of us to whom Miss Genevieve Ward's

'Volumnia' is no new thing had the delight of seeing her, not only at her best in the pathos of the suppliant scene, and more powerful than many a younger woman could be in her outburst against the ungrateful hucksters of Rome, but wonderfully light and happy through all the early part. There was no trace of severity or gloom about her: only the radiant pride which was one of Siddons' secrets." Let us hope, contrary to the editor, that Miss Ward will continue happy and useful from sixty to ninety, "and then some."

She was an operatic singer for seven years, singing mistress for ten years, an actress for forty-seven years; total years of hard and successful work sixty-four.

Here is an illustrious example of a man being happy and useful although he has passed his ninety-fifth birthday. I take this from the daily paper on his ninety-fourth birthday. From personal friends of his I learn that he enjoys life immensely and is quite willing to carry on until he reaches a hundred:

"To-day the Earl of Halsbury celebrates his ninety-fourth birthday and Bench and Bar and innumerable friends will join in wishing him still many happy returns of the anniversary. Already he has broken more than one record in the annals of the Woolsack and this day adds another; in lon-

gevity he has outdistanced any of his predecessors. Lord St. Leonards, who hitherto among the Lord Chancellors held the palm, passed away at the age of ninety-three. Born three years after the death of King George III, Lord Halsbury graduated at Merton College as long ago as 1840, and in the following year was entered as a student at Inner Temple. His contribution to the profession of the Law and public life, so rich and varied, extends over sixty-seven years since his call to the Bar."

Another instance of a man being useful for thirtyone years after he had reached his sixtieth year was
that of Sir Horatio Lloyd, the venerable Recorder
of Chester, who has recently died in harness at the
age of ninety-one. He was appointed to that
office in 1866, and his long tenure of it is probably
unique, having held the position for fifty years.
From all we can hear his life from sixty to ninety
was a most useful and happy one.

Duration of life increasing.—For the last two hundred years accurate records have been kept in France which prove beyond doubt that the duration of life is increasing steadily. Duvillard, Demonferraud, Bertillon and the Registrar-General of France have all come to the same conclusion. While in 1800 the average duration was only $35\frac{1}{2}$ years, in 1877 it had increased to 40 years $(40\frac{1}{2}$ for men and 42 for women).

Mr. Legoyt in his Annual of political economy for 1865 gave the actual figures based on hundreds of thousands of deaths for each year.

```
1806-1810=31 years 6 months
1811-1815=31
                   IO
1816-1820=31
                   IO
1821-1825=31
                    5
1826-1830=32
                    5
1831-1835=33
1836-1840=34
1841-1845=35
                   II
1846-1850=36
                   ΙI
1851-1855=36
                    8
1856-1860=36
                    4
1861-1865=36
                   5
                        2.3
```

From a work by Mr. T. E. Young on Centenarians, published in London in 1899 and quoted by M. Finot, Paris, 1919, it appears that the existence of many of them is authentically proved. He availed himself of the records of the Society of English Actuaries comprising sixty-two insurance companies. The members included 25,000 annuitants and 800,000 ordinary assured persons, and furnished absolute proof that there were twenty-two people actually living over 100 years old.

Dr. Farr, the celebrated author of English Life Tables published in 1864, stated that in 1854 there were living in England seventy-nine men who were over 100 years old; twenty-five were 102; one

was 107; while for women there were one hundred and forty-four who were 100; eighty-five were 101; forty-nine were 102; and one was 108. At the beginning of 1901 several English newspapers made a collective search and found as many as twenty people who had lived in three centuries. Mrs. Elizabeth Hanbury who was born in June, 1793, was alive and in full enjoyment of her mental faculties in 1901. There were also living in 1901 Mrs. Anna Sims, born in 1797; Mrs. Stock, Mrs. Alsop, Mrs. Perry, and Mrs. Vilmot, all born in 1800. The Sphere of January, 1901, gave a report that they were all not only in good health, but that their mental faculties were quite normal. In 1889 the celebrated Professor Humphrey, of Cambridge, published a book on which he had been working since 1884. He sent forms to all his medical friends regarding the age, health and weaknesses of their oldest patients, especially with respect to their circulation, digestion and special senses. They were able to send him fifty-two authenticated cases, almost all of whom were in satisfactory health. They all ate little and drank still less, led an openair life, got up early and slept on an average eight and a half hours a night.

In 1890, according to the Census, there were in the United States 3,981 persons over a hundred years old, and at the same date there were in London twenty-one centenarians. In passing, let us note

that the population of London is one-fourteenth the population of the United States; but onefourteenth of 3,981 is 355, which is the number of people over a hundred who should have been found in London. Why only twenty-one? Because plenty of sunlight and fresh air are the two great requirements of long life, and as there is always a fall of unconsumed coal to the value of eight millions of pounds sterling per annum overhanging the world's metropolis the sun cannot be seen sometimes for months at a time in the eastern half of the city. If we want to reach a hundred we should either persuade the gas companies to lower the price of gas so that it would be much cheaper than raw coal, which owing to the high selling price of their by-products they could easily do, or bring in electricity manufactured at the pit mouth, which could be sold for half its present price, or even less; or still more cheaply by manufacturing it from wind and the tides. If these things were done, London would be almost as sunny as Paris. Until these improvements take place in heating and lighting, people of sixty to a hundred should live wherever possible in the West End or in the country outside the twelve-mile circle. If they would become country clergymen or market gardeners their chances of long life would be greatly increased, which, according to the Insurance Companies, are the healthiest of all occupations. The Lancet some

years ago reported an interview with a resident of Bogota who was 180 years old. It also mentions a patient, a woman of 109, who was operated on for strangulated hernia. M. Solaville, a French investigator, found in 1870 that there were in Europe 62,503 persons who were over a hundred. The coloured people in Jamaica are living under favourable conditions for long life—open air, sunshine, little meat, cheap fruit, and vegetables, no bronchitis, no pneumonia, and good spring water. The death of Joseph Bon at 145 and Robert Linch at 160, Rebecca Tury at 140, and Catherine Wyatt at 150 have been recorded there.

A well-authenticated case of longevity mentioned by M. Finot is that of Mr. Robert Tylor, born in 1764, and Postmaster at Scarve under George IV, William IV, and Queen Victoria. Her late Majesty, on hearing that he was the oldest postmaster in the world, sent him her photograph with the following dedication in her own hand: "Presented by Queen Victoria to Mr. Robert Tylor, as a souvenir of having reached an age without precedent within the memory of man." He only lived three months longer, dying at the age of 134 years. He was a bachelor most of his life, only marrying at the age of 108.

In the same year in which Mr. Tylor died the death was recorded at the age of 117 of Mrs. Anne Armstrong.

At the Census of European countries, taken about 1870, Italy had 302 people over a hundred; Austria, 128; Hungary, 334; England, 160; Scotland, 79. An English statistician who had the patience to examine 76,892 death notices in the *Morning Post* between 1877 and 1896 found that there were 10,806 over 80; 1,198 over 90; 262 over 95, and 30 over 100.

The New York World (14th January, 1903), also quoted by Finot, saw the birth certificate of Manuel del Valle, of Los Angelos, signed by the Mayor of his native town in Mexico, 24th November, 1745, and who had reached the age of 157 years. He was very slightly built, ate very sparingly, and had never smoked nor drank alcohol.

CHAPTER VII

THE STORY OF LUIGI CORNARO, AS TOLD BY SIR HENRY THOMPSON

E was born of a noble family of Venice, and nearly five hundred years ago, having reached his eighty-third year in good health, he felt it his duty to sit down and write an essay, Discoria della Vita Sobria, for the benefit of his fellow-citizens, which was published at Padua in 1558. He wrote three others on the same subject during the next twelve years, his object being to show that with increasing age and diminished powers a corresponding decrease in the quantity of food must be taken in order to preserve health. He died at Padua without any agony, sitting in an arm-chair, being above a hundred years old.

He wrote among many other things as follows: "There are old lovers of feeding who say that it is necessary they should eat and drink a great deal to keep up their natural heat, which is constantly diminishing as they advance in years, and that it is therefore their duty to eat heartily and of such things as please their palates, be they hot or cold

or temperate, and that, were they to lead a sober life, it would be a short one. To this I answer that our kind mother, Nature, in order that old men may live still to a greater age, has contrived matters so that they should be able to subsist on little, as I do, for large quantities of food cannot be digested by old and feeble stomachs. By always eating little the stomach, not being much burdened, need not wait long to have an appetite. It is for this reason that dry bread relishes so well with me, and I know it by experience and can with truth affirm, I find such sweetness in it that I should be afraid of sinning against temperance, were it not for my being convinced of the absolute necessity of eating of it, and that we cannot make use of a more natural food. And thou, kind parent Nature, who actest so lovingly by thy aged offspring, in order to prolong his days, hast contrived matters so in his favour that he can live upon very little; and, in order to add to this favour, and do him still greater service, hast made him sensible, that, as in his youth he used to eat twice a day, when he arrives at old age he ought to divide that food, of which he was accustomed before to make but two meals, into four; because thus divided it will be more easily digested; and as in his youth he made but two collations in a day, he should in his old age make four, provided, however, he lessens the quantity as his years increase.

"And this is what I do agreeably to my own experience; and therefore my spirits not oppressed by much food, but barely kept up, are always brisk, especially after eating, so I am obliged then

to sing a song, and afterwards to write.

"Nor do I ever find myself the worse for writing immediately after meals, nor is my understanding ever clearer, nor am I apt to be drowsy, the food I take being in too small a quantity to send up any fumes to the brain. Oh, how advantageous is it to an old man to eat but little. Accordingly, I who know it, eat but just enough to keep the body and soul together."

Since Cornaro wrote his book at eighty-three and sang his song after eating because he felt so happy, and died in his chair at over a hundred in 1570, how many hundreds of millions of people have lived and died at half his age because they never heard of him and of his mode of life. I feel that there is no need of apologizing for quoting this reference to him from Sir Henry Thompson, who knew what to do, but could not do it, and died at the comparatively early age of eighty. Cornaro probably spent his days under cloudless skies in a smoke and fog-free atmosphere. He did not have any social obligations which compelled him to eat late meals and attend crowded functions in a bad atmosphere as it is evident from his writing Sir Henry was compelled to do. In Sir Henry's book

he says I have put my feet in hot water every night for thirty years for ten or twelve minutes as hot as it can be borne; no matter how late the hour at which social or professional engagements have delayed my return home. Indeed, the more prolonged and the more engrossing these have been the more need is there for the hot foot bath. Especially after intellectual activity resulting from public life, etc., as above referred to, also after prolonged study or literary labour at night, the tranquillizing effect upon the nervous system is very remarkable, and quiet sleep is promoted. Cornaro ate of all kinds of food, animal as well as vegetable, but in very small quantity, and he drank moderately of the light wine of his country, diminishing his slender rations as age increased. Cornaro was probably sound asleep in bed at eight o'clock and up at four, thus getting four hours more daylight and outdoor life than the Londoner, who is almost compelled to turn night into day. And as for singing a song after eating, there comes the question. What would the servants say? True, custom allows us to have a song after banquets, but it also says it must not be sung by the man who has just eaten, as Cornaro did, but by another man who does not eat, but who is paid to sing.

Baron Waldeck, a well-known man in Paris, died at 107. M. Flammarion, the great French astronomer, guarantees the authenticity of the age of

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M. Michan, former librarian of the town of Olivet, who was 105 years and still living, and of Madame de l'Isle de Fief, of Nantes, who died at 107.

Now all these instances are given out of many thousands of similar ones, to show that there is no inherent reason why we should not all reach a much greater age than we do, if we really wanted to. Indeed, there is every reason to believe that the mean average of life will be extended another ten years in this century as it was in the last century. The great discoveries of Pasteur, Metchnikoff and Lord Lister, the improvements in hygiene in the cities, the triumphs of serum therapy, vaccination and antitoxines and advances in general well-being of the population, all argue well not only for the increase of the general average of life, but as this increases so will the special instances of people reaching a hundred be very much more numerous.

But do we want to live longer? That depends upon the age we are at; the young person of eighteen constantly says I don't want to reach sixty; at twenty-eight they admit they might be willing to live to sixty-five; at thirty-eight and forty-eight they begin to enjoy life so much that they would like to live to seventy; at fifty-eight and sixty-eight if they are living a happy and useful life they are enjoying it so much they would like their day of usefulness to last until they are a hundred before "the night comes when no man can work."

Not only is it natural to want to live long, but it is an absolute duty to go on living, for if we are living the right kind of life we are useful to a great many people. The doctor, for instance, who knows the constitution, heredity and life history of several thousands of his patients should not only go on living but it is his duty to keep fit and in such good health that he can continue to advise his patients to the third and fourth generation of those that love him and follow his advice.

I know of no happier nor useful nor more honourable way to spend from sixty to ninety, or even longer, than to be sitting in one's consulting-room for six or eight hours a day telling people how to preserve their health. Doctors are not infallible and now and then they may make a mistake in interpreting the laws of health, but the patients who consult a doctor in possession of all his faculties at ninety are making no mistake in going to him for advice. The proof of the pudding is in the eating of it, and the best proof that a doctor knows the laws of health is the fact that he is alive and well at ninety.

I know of no happier death than that of the doctor still in harness at ninety dying in his chair just after saying good-bye to his last patient, just as there can be no happier death for a clergyman than to die as one did the other day, who after the morning service, where he had given Communion

to his flock and partaken himself, dropped dead as he entered his house. To die in God's service or in the service of his fellow-men is alike noble. Sir Henry Irving was another instance of a man dying in harness long past sixty, and Madame Sarah Bernhardt is still delighting large audiences in Paris and London at seventy-six.

We have already seen that the chances of living a long life are increasing every year. In France, for instance, the deaths per thousand fell from twenty-eight in 1800 to twenty-two in 1888. In England at present it is 17.6.

Per thousand Norway 17.02 Sweden . 16.3 Denmark . 19.7 Russia and Europe before War 35.7 . 20.8 Greece. . 38.7 Croatia and Slavonia Tasmania . . 15.6 . 15.5 Victoria . . 14.9 West Australia . . New Zealand .

Put in a other way:

A man of	20	has	40	to	45	years	to	live
	20-25	"	37	,,	40	"	"	
	25-30	,,	34	,,	37	"	"	
	30-35	,,	31	"	34	,,	>>	
	35-40	,,	27	,,	30	"	"	
	50-55	,,	17	,,	20	"	,,	
	55-60	,,	14	"	17	"	,,	
			TO	10				

M. Finot has made an interesting study of the age at which learned men arrive. All the living members of the Académie Française (called the Immortals) average seventy-two years eight months.

The Members of the Academy of Moral Science, 72 years and 2 months.

The Members of the Academy De Beaux Arts, 71 years and 4 months.

The Members of the Academy of Sciences, 70 years and 9 months.

The Members of the Academy of Belles Lettres, 70 years and 8 months.

Victor Hugo	died at	80	Emerson	died at	79
Manzoni	,,	89	Mme. Valmore	"	72
Paul Meurice	"	85	Hans Andersen	,,	70
Tennyson	>>	83	Chateaubriand	,,	80
Meredith	,,,	77	Thiers	,,	80
Béranger	,,	77	Dufaure	,,	83
Longfellow	,,	75	Littrê	>>	80
Browning	,,	77	Wallon	>>	93
Lamartine	,,	79	Tolstoi	"	85
Paul de Kock	33	71			

The Société des Auteurs et Compositeurs Dramatiques Français had in 1900 three hundred members, of whom 111 had passed the age of sixty. The Vice-President, M. Cormon, was over ninety-two, and several of his colleagues were between eighty-five and ninety.

As one might expect, women live much longer than men In the United States at the Census of

of whom 2,583 were women and 1,398 were men. In France, for every ten people over 100, seven were women and three were men. In Scotland there were sixteen women and five men over 100. In London

there was the same proportion.

According to the last Census in the United States, the death-rate of males was greater for every year from birth up to seventy. From seventy to ninety women had the larger death-rate. After ninety, women regained their advantage until the end. Of 111 deaths in New York there were seventy-seven women and thirty-four men. Of 1191 octogenarians in London there were 645 women and 545 men.

According to the Prussian Census of 1885, there were 2081 nonagenarians men and 3567 women. From ninety-five to one hundred, there were 306 men and 641 women. Over one hundred there were seventy-two men and 260 women. Once the hundredth year was passed women have five times more chance of surviving than men.

What is the reason for this? Women's occupations are less dangerous as a rule than men's. She does not go to war or the battlefields nor go down the mines; she is less often exposed to the temptations of alcohol, which greatly increases the death-rate of men, and not one-tenth as many women smoke as men, which indirectly causes thousands of deaths. Even at birth a girl baby has

a better chance of survival especially if she is the first child, because she is generally a pound or two lighter and her head is two or three centimetres less in circumference, so that she does not so often have to be dragged into the world by artificial means. According to Mr. Holt Schooling, an English writer, from fourteen to eighty-five the chances of women surviving longer than men are quite remarkable. A man who reaches eighty-five has one chance of death each year for three of life.

Although there are fewer women in India than men, yet at the last Census there were 242 women out of a total of 380 centenarians. According to the English Registrar-General's Report for 1883, there were eighty-nine people living over a hundred years, and seventy-nine of them were women and only ten were men.

In France in 1886 there were 1399 people living over eighty years old, and of these 977 were women and 422 were men. Finot points out that with such evidence before us we are no longer justified in calling women the weaker sex. A curious fact well known to the breeders of animals is that the more the mothers are well fed the more females will be born. And as English mothers in ordinary times have an abundance of food it is not surprising to learn that there are two million more women than men. When there are twins, for the same reason, they are generally boys.

And now we must correct a common fallacy. When we mention the words centenarian or extreme old age the idea at once comes to us of decrepitude, illness and the thousand and one defects and vices usually attributed to the elderly. But when we analyse these lives at close quarters we shall be agreeably surprised at their presence of mind, vivacity of their memory, the fertility of their intelligence and the gentleness of their manners. I can look back with the greatest pleasure to the many pleasant hours I have spent in the company of my eighty, ninety and one-hundred-year-old patients. I remember a delightful dinner given by my kinsman of ninety-two to eighteen visitors attending a National Medical Association, of which I was a guest at fifty; he had been President for the third time; while those who knew Sir William Hingston and Sir James Grant and Sir Charles Tupper at eighty and Lord Strathcona at ninety will never forget their innate gentleness and kindness.

Mr. George Opper, of Peak Hill Villa, Sydenham, recently took the chair at a political meeting, although he is over ninety-two years of age. Tall, broad, upright, ruddy-complexioned, he is indeed a splendid veteran. Thirty-three years ago he fought the undivided borough of Lewisham, and he is still "going strong."

Mrs. Wilden, of Dudley (Worcs.), on the celebra-

tion of her hundredth birthday received a birthday cake from the Mayor of the town with the inscription: "One hundred, not out."

But here is a case which it would be hard to beat. I take the following item from the columns of a leading daily paper: "Can any other Mercantile Marine than the British boast of a skipper in active command at the age of ninety-seven? I hear that Captain James Moore, of Nova Scotia, is master of a British schooner in an Atlantic coast port. The crew of the vessel is made up of boys under military age." When I hear of men of fifty or sixty retiring from their occupation carried on under comfortable or even luxurious conditions, I will think of this fine old specimen of the Nova Scotia sailor living winter and summer on board his little sailing ship, not only earning his own living himself but teaching his crew of boys the calling of the sea and making men of them. I have often heard and taken part in conversations among elderly men as to how they would prefer to meet death when it comes. Most of them said they would like to die in their sleep, or as one old gentleman put it, he would like to go to bed quite well one day and wake up dead the next. There is a notice in the paper of Mr. Edward Fagan, a farmer of Castle Pollard, West Meath, who had reached the age of 102 without a day's illness, and who was killed by lightning while superintending turf-cutting

"Lively centenarian; can still dig and plant like a professional gardener; as active as an ordinary man half his age," is the description applied to Mr. Charles Tulley, a retired Sussex farmer, who celebrates his hundredth birthday to-day. Mr. Tuliey still spends the best part of every day working in his garden, and in digging and planting, says a Daily Chronicle correspondent, can compete with any professional gardener. From the age of eleven till he was eighteen he worked as a farm hand. Later he took to farming on his own account, prospering so that he finally farmed two thousand acres at Poynings, and for twenty-nine years reared two thousand head of Southdown sheep annually. He retired to Hassocks about twenty years ago. Mr. Tulley married in 1845, and celebrated his golden wedding in 1895, but his wife died about twenty years ago. They had five sons and four daughters, and a daughter now nearly eighty lives with her father in his retirement.

"Honour thy father and thy mother that thy days may be long," etc. How many people have said these words over hundreds of times without wondering why they were thought important enough to be in the laws of Moses. I have written them again here because they have a great deal to do with my subject. One of the most distressing feelings which the man or woman over sixty can experience is the feeling that they are of no use and are not

wanted in the world. We have known instances of this, but it has generally been due to lack of training of the children so that they have been brought up to be selfish. Many elderly men have had the feeling that their children were hoping for their death, and in many cases this is quite true.

If a man denies himself luxuries and works hard all his life in order to accumulate a small fortune of which he only spends the interest, leaving the capital to be divided amongst those who come after him, then it is more than likely that all those who will benefit by his death and who want their share now, would like to see him die soon. When he reaches sixty and seventy they can hardly conceal their chagrin. When he reaches eighty and ninety they are desperate and it does not increase the happiness of the man between sixty and ninety to see this inclination to speed his departure from a world which he finds very pleasant otherwise.

When our children see how we treat our parents, they are more than likely to treat us in the same way, so that honouring our father and mother will lead to our children honouring us so that their days may in turn be long in the land. This law is one which while so important is not sufficiently insisted upon by those who are bringing up children; people should insist that parents and grandparents should be treated with every consideration and respect, for if they do not they cannot look forward

to being happy when it becomes their turn to grow old.

There are two ways in which much of this unhappiness can be prevented; one is when the well-off man reaches sixty or seventy to distribute by deed of donation all his fortune except what he requires for his own needs among his children, and then with the remainder buying annuities from a dozen different insurance companies and then letting it be known far and wide that he has nothing to leave. In that case, no one but the companies will have any pecuniary interest in his death, and they, being well protected against loss, do not care. For each of their clients who lives twenty years over his expectation another one is run over in the street and killed twenty years sooner than they expected. The law of averages protects them. The heirs having received all they are ever going to get, their natural affection is not counterbalanced by their love for the root of all evil, as money is sometimes called. I have known several very wealthy men who have done this and who are still living very happy at ninety. The other way is to hand over the whole amount he possesses to the insurance companies who will return him his money in annual payments based on his expectation of life. By consulting page 77 of this book you will find the expectation of life tables. You will see that the man of sixty has an expectation of thirteen

and a half years. The companies will allow him his own money back in thirteen and a half annual payments, plus the full rate of interest, less a small charge for taking care of it for him.

IMMEDIATE ANNUITIES

This table shows amount of annuity granted for every £100 paid. The age is calculated from the last birthday, but many offices quote intermediate rates for every half or quarter year. By some a proportionate amount is payable to day of death. Some companies pay whole or part of stamp duty.

The annuity is calculated as payable half yearly. In some cases the quarterly rate is the same; in others it is a little less. Some offices grant special

terms in case of impaired lives.

If he dies exactly at the age of his expectation of life in what way is he better off than if he had kept his money in the bank and withdrawn a thousand pounds a year and the interest? If he were sure of dying on the very day he would be rather worse off, because he has to pay the companies a small charge for safeguarding his money. Thousands of people every year are swindled out of their life savings and die in actual poverty, which could not have happened if they had given the whole of it over to the insurance companies in exchange for a certain annual payment. But there is no certainty that he will die the very

day that he reaches seventy-three, for that is the average age, and he may individually reach ninety or one hundred. If he has been his own company and allowed himself one thousand pounds a year and the interest his money would have all been spent and he would have a very unhappy time from seventy-three to ninety. But here comes in the advantage of the guaranteed annuity from thirteen of the best insurance companies. They will continue to pay him a thousand pounds a year for sixteen and a half years after they have returned him the whole of the amount which he had handed over to them. Not only that, but if he should live to a hundred he will still receive his thousand pounds a year. I append here the published terms of the principal companies, so that my readers can see for themselves exactly what each company agrees to pay.* Of course, it is understood that the companies give him a legal

	Males.								FEMALES.																	
Office.	A	ge	55	Ag	e	60	A	ge	65	A	ge	70	A	ge	50	Ag	e 55	A	ge	60	A	ge	65	A	g€	70
Atlas Canada Life Confederation Eagle & Brit. Doms. London Life Scottish Widows' Standard Sun Life of Canada	00 00 00 00 00 00 00	36 5000 2 2	8 6 2 6 4 8 1	9 9 1 9 1 9 1 9 1	8 0 0 3 2 7 7	6 10 1 0 11 0	11 11 11 11 11	2 3 6 6 0 3	6 11 4 8 7 4 0	13 13 13 13 13	9 7 7 11 11 6	4 4 9 10 9 2	6 6 6 7 7 6 6	14 18 15 0 0 13	8 11 9 10 7 4 3	7 I 7 I 7 I	8 4 2 3 9 9 4 4 4 1 7 5	80 80 80 80 80	7 11 13 13 4 7	10 4 4 6 4 10 6	9 10 10 10 9	16 19 0 2 1 12 17	6 7 4 0 10 0 3	11 12 12 12 12 11 11	18 0 2 2 11 1	10 7 10 7 10 4

¹ London Life rates are for exact age stated, but are apportioned for actual age at time of purchase.

^{*} Taken by permission from Whitaker's Almanack.

binding contract which is obligatory by law, and would be paid to him out of the monies which are deposited with the Government if they failed to pay themselves. But such an eventuality is unheard of.

But why not put all his eggs in one basket and pay the whole thirteen thousand and five hundred to one company? Because once in a hundred years or so a life insurance company becomes bankrupt, and it might be the one he has his money in, and it might happen in his lifetime. It costs no more to put his eggs in thirteen baskets, so that if one should break he has all the others intact. It does cost a little more, however, to have the payments made quarterly, and it can be so arranged that he will get a cheque on the first of every month and an extra one at Christmas.

If the man of sixty required the whole of these annuities for himself, he has a perfect right to them, supposing that he has provided for his wife and invalid children by similar annuities. If he does not require it all, he can send a cheque every Christmas to each of his children who are doing for themselves. If he does this regularly and they know that his annuity and their presents die with him, he can be absolutely sure that he will be mourned sincerely when he dies, and that when they wish him many happy returns of the day their wish will be sincere, which is a great comfort.

He will also have the great merit of dying a poor

man, over whose dead body there will be no angry litigation nor even quarrelling. He came into the world with nothing and he will go out of it with nothing. Andrew Carnegie said it was a crime to die rich and he acted up to his dictum and gave away many millions; and the greatest of all teachers said it was difficult for a rich man to enter the Kingdom of Heaven.

CHAPTER VIII

SOME WAYS OF DISPOSING OF WEALTH

ANY rich men who would like to do as much good as possible while they are alive have to contend with a difficulty, namely, to know what to give their wealth to without impoverishing and hurting those whom they wish to help.

Well, here is one of the best ways in which to spend their money while they are alive, and while they are able to take a share in the joy of seeing

the good they are able to do.

Start a Home for Elderly People. How big the house will be and how many elderly people can be made happier by it will depend upon the amount that one can afford and by the care and economy with which it is managed. There is no denying the fact that when the benefactor is dead and gone much less of his money actually reaches those whom he wishes to benefit than would have reached them if he had been there to give his loving and unpaid services. It is also a fact that unless the supply of money is almost unlimited it is better to begin on a small

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scale and let the work grow. It is also a great advantage to have a small committee of ladies and gentlemen all over sixty to assist the founder, all of whom should give their services gratuitously. The first question which will arise is where to start it? Preferably in the west end of the city in a locality where there are many large and well-built houses, but which is no longer fashionable. Also, there should be preferably a little ground surrounding it and if possible a lawn where games might be played. But there should be as few paid employees as possible, because one of the great secrets of happiness is that these people should lead an active and busy life. All the work of keeping the house clean and the beds made and the living rooms tidied, all the preparation of the food, all the washing up afterwards, all the carrying and waiting can be done by the inmates in turn.

The men and women should be allowed to mingle freely; to keep them apart as is often done deprives them of the main sources of pleasure which they enjoyed before entering the institution. No good reason has ever been given why they should be kept apart; in some places where there is no barrier the inmates form a large family party, and greater interest is shown in the home and in each other.

In a small institution where the sexes mingle, as at the Acton Home on Staten Island, New York, this is the case. They occupy an hotel building,

which is to them a real home, not an asylum or institution. They find here an approach to home conditions under probably more wholesome conditions than formerly, with freedom from care about the future. This is an ideal home for the aged. The cottage plan of housing the old has much to commend it to those interested in the welfare of the aged.

When the cottage plan is impracticable, an effort should be made to copy the home life as far as possible by having small sleeping-rooms instead of large dormitories, permitting aged couples to remain together and fitting up their room with

pictures and decorations from their old home.

It is true this will interfere with the prison-like uniformity of the sleeping-rooms and detract from the appearance of apple-pie order. But then the house was not provided for the inspection of visitors, but for the comfort of those who needed it.

It would promote the happiness of the occupants and give them an interest in life in making their little share of the house as nice as the next ones.

By making them feel at home as much as possible their lives and happiness would be prolonged, because it would lessen the bitterness of leaving their own home and of having lost all their dear ones. I have a great belief in music as a diversion for the mind. In a home for the aged, say, with one or two hundred inmates there is sure to be a large

number who used to sing and play the piano. A few flutes and violins and a piano would form an orchestra which would give great pleasure to both performers and audience. I have seen more than one grandmother dancing as gracefully as her granddaughter at a ball. Why not have a dance once a week? A volunteer might act as Master of Ceremonies. A concert on one night and a dance on another night each week would make the time pass pleasantly. The aged prefer melody; the simple kind of music and the old-time airs with their happy memories to the airs of to-day.

Another great pleasure would be a dinner party once a week on which occasions they might dress up in the remnants of their male and female finery, and each gentleman be allowed to choose the lady whom he is to take in to dinner. This would add little if any to the expense, as some would rather cook and serve than sit down and be waited on. A few others would rather provide the music. And as for the food, well, it would just be the ordinary food only served in a little better style. Anyway, the food is not always the principal part of the dinner party. We have all been to some very jolly dinners where there has been very little to eat, and to others which were very dull in spite of the great amount of food.

They should also be encouraged to keep their clothing in good repair, and to this end a sewing

circle might be established where they could not only repair their own clothes, but for a small sum repair the clothing of the male inmates, and while they are at work one of the family who is a good reader might read aloud from a standard author, and thus make the time pass very pleasantly.

If there was not sufficient work in the institution to keep them busy, why not take in mending and darning from outside? It would not only give them occupation, but still another chance to earn a little money. If it were known that repairing and mending would be neatly done for a moderate charge there is little doubt that many ladies, especially overworked mothers, would send the family mending there.

One of the saddest things about being over sixty is to be without an occupation, but sadder still to be penniless. It is, therefore, no small part of the benefactor and his committee to see that these people may be useful and happy by being able to earn a little money by useful work. How often it happens in these days that a house is without a maid of any kind, while the mistress is out every day making frantic endeavours to get one. Perhaps the mistress is a young mother who cannot take her baby with her in all these travels. What a help it would be to be able to ask one of these elderly women, whose good character is well known, to come for a

day or a week and remain in the house while the mother is out.

As we have already mentioned, the rules and regulations of the club should be as few as possible, and only such as are absolutely necessary for the comfort and well-being of the little community in general as opposed to any selfish manifestations of anyone in particular. This especially applies to the inmates being allowed and encouraged to go to their own church, because between sixty and ninety religion becomes more precious than ever. As it is just as important to keep the mind active as it is to exercise the body, the club should be supplied with newspapers, magazines and books. If these elderly people are unable to buy them for themselves they might be supplied with them by the kindness of the wealthier citizens. One of the rich men's clubs would do a great kindness to any over sixty club for middle class people if they sent them all their literature with which they had finished. It could be easily arranged for one of the members of the poorer club to call regularly every week for a bundle of newspapers.

Much discomfort and even illness is caused by inadequate toilet and sanitary arrangements, and great care should be taken in planning such a place to have adequate toilet and bathing arrangements.

CHAPTER IX

THE EFFECT OF FRESH AIR AND SUNLIGHT UPON THE HAPPINESS OF THE ELDERLY

F course every one knows that the human system is a carefully arranged and very perfect furnace in which every four seconds from the cradle to the grave a supply of oxygen is taken in, and a smaller quantity of carbonic acid gas is taken out. This supply of air is absolutely necessary to happiness, because the things which we take into our stomachs enter through the veins into the system and are carried to every part, and become either valuable means of sustenance, or deadly poisons, according to the amount of oxygen with which they are united. For instance, nitrogenous food, such as meat and fish, and white of eggs, is, if the supply of oxygen be sufficient, turned into urea, which is promptly eliminated by the kidneys, leaving no refuse behind. But if the supply of oxygen is insufficient it is not oxidized completely, but remains in the transitory stage of uric acid, which is much less soluble in the blood, and which on the slightest cooling of any part

through which this super-saturated solution of uric acid is passing, will deposit or throw down the crystals wherever they may be. These crystals are often deposited between the layers of muscular fibres, or in the sheaths of the nerves, so that on the slightest movement the sharp points scratch and tear these delicate structures, thus causing the pain of lumbago, rheumatism and neuritis.

Cereal food such as wheat and oats and Indian maize, contains very little of this nitrogenous matter, so that it is all completely burnt up and no ashes

or refuse of any kind is left.

Not only does the insufficient oxidization of nitrogenous food cause physical pain, but there are other stages of this condition still more marked, in which the nitrogen does not even reach the stage of uric acid, but remains in the blood in the form of oxalic acid, which, while it has no sharp points and therefore causes no physical pain, exerts a most depressing effect upon the brain and nervous system; so that the man who is as rich as Crœsus could be turned into one of the most sad and depressed ones by purchasing from the chemist and taking as many grains of this poison as exist in many men's systems from eating too much meat. No wonder Sir Henry Thompson in his great book some twenty years ago called attention to the fact that one needed very little meat after sixty as many of the activities which require a great expenditure

of albuminous food are no longer exercised by the man or woman of sixty, so altogether an abundant supply of air indoors if possible, or at least out of doors for many hours a day, is absolutely necessary to keep one happy by keeping one well.

Many old people whom the writer has advised to cut out meat from their dietary have anxiously inquired what else there was to eat. The answer is that after one has given up the various forms of meat they still have hundreds of dishes to fall back upon. Sir Henry Thompson described a very savoury stew, in which there was little meat—just enough to give it a flavour, mostly consisting of vegetables of every kind—potatoes, carrots, turnips, parsnips, onions, and even a few peas, with pepper and salt, parsley, and perhaps another herb.

During the War I was constantly asked by harassed mothers of families how could they possibly feed them when meat and fish were so scarce and dear? I was fortunately able to be of great assistance to them. Having been the Surgeon-Major of a cavalry regiment for many years and having acted as President of the Mess, it was my duty to keep the three hundred officers and men under my medical care in the best possible health. Although we all received the same rations from the contractors, most of the three thousand men who were in camp for twelve days were complaining that the meat was so tough as to be almost uneatable. Not

so with our regiment, for with a knowledge of cooking and food values and with the aid of five cooks, we sat down to a delicious and appetizing meal of tender meat and vegetables. I began by levying a contribution of threepence a day on every one for extras, and as potatoes were the only vegetables provided most of this money was spent on buying sacks of fresh vegetables from the neighbouring farmers. The cooks began soon after dinner one day getting our stew ready for the next day, and by three or four o'clock the big boilers were simmering over the camp fires. The tough meat was cut off the bones into squares of about one inch and the bones were broken up and put in the pot. Into the pot were tossed so many sacks of peeled potatoes, carrots, turnips, onions, parsnips and artichokes, making six vegetables and four cereals, peas and beans, and barley and rice. Then were added pepper and salt and mixed herbs to taste. Some of the men said this must have been the original mess of pottage that Esau sold his birthright for. Well, during the War I induced hundreds of housewives to make two gallons of stew the same as above and not to cost more than one shilling per two gallons. How was it done? Simply by leaving out the meat altogether and substituting twopence worth of bones and adding exactly one pennyworth of each of the vegetables and cereals. With the help of about a

quarter of a penny package of mixed herbs and pepper and salt it is surprising how appetizing and nutritious these two gallons for a shilling become on the one condition that they simmer from twelve to twenty-four hours on the back of the stove, and that it be strained through a colander into the soup plates. What cannot be mashed through can be boiled a few hours longer. In cold weather what is left can be kept till next day. While visiting a leading society lady one Sunday during the War I told her about the vegetable stew and only the other day I met her after two years when she informed me that she had given my recipe to all the ladies of her Committee and that they had passed it on to their friends so that there are hundreds of families in that neighbourhood still eating the War stew two years after the Armistice.

One constantly hears from people who are very fastidious, that they cannot eat anything that grows below the ground. This is, indeed, a fad, and a very erroneous one, as potatoes, onions, parsnips, beets and carrots, turnips and artichokes are all excellent food. Next to plenty of air, sunlight is an important factor in making one young and happy at sixty. On this point I can speak from experience, for during the year I spent in Alberta, in a province about 2,500 miles west of Montreal, and where the sun shines for twelve hours a day for six months of the year, people even at seventy

and eighty appeared little more than sixty years of age.

Some people are annoyed apparently in these days to see a middle-aged person happy and enjoying life, but it is most unfair. There are troubles enough in life without wishing to deprive anyone who is able to be happy, even up to a hundred, from

obtaining what pleasure they can from it.

Much of this happy and delightful freedom of mind so apparent in this province of the Dominion of Canada, well known as "Sunny Alberta," is certainly due to the many hours of sunshine during the summer months, and even to the intensity of the sunlight in the winter days. It affects the animals, and even the plants grow exuberantly, for in less than one hundred days from the time the seed is put into the ground a bountiful harvest is reaped. One can hardly exaggerate the value of sunlight as a factor in prolonging life. When I take my walks abroad in London I am struck with the great number of men between fifty-five and sixty whose pale faces indicate that their days are numbered. And yet many of these men appear to be well-to-do and quite able to afford a holiday every winter of two or three months in the south of France or Spain or even Egypt or Algiers. But they probably do not realize the danger they are in and that without any red soldiers in their blood to protect them they are destined shortly to fall victims

to influenza, tubercular pleurisy or bronchitis or pneumonia, which three diseases cause the death of a hundred and fifty thousand people on an average every year.

A good doctor will give them injections of iron and arsenic and then send them to some warm

and sunny place for the dangerous months.

Fresh air, pure water, sunlight, plain food and plenty of exercise are the first requisites for health. But if you want to live to be ninety it is almost a necessity to have the advice of an experienced doctor at regular intervals. All fatal illnesses have a beginning; many of them can be arrested if taken in time.

CHAPTER X

CONSTIPATION AS A CAUSE OF OLD AGE AND AVOIDABLE BY DIET

S we have tried to show, it matters little how many years have passed so long as we feel young and our arteries are elastic. Recent investigations of Metchnikoff clearly show that the colon bacillus in the intestine is one of the great causes of old age. If he who makes two blades of grass to grow where only one grew before is a public benefactor, still more so is he who makes only one bad microbe to grow where millions flourished previously. Such men were Pasteur, Lord Lister and Metchnikoff, who by their antisepsis have cut short the murderous war carried on by microbes in the past. It has been proved that in the presence of constipation the colon bacilli increase enormously. Metchnikoff, while travelling in Bulgaria during one summer twenty years ago, was very impressed with the great number of people over a hundred years old, and who were not only living, but doing hard work, such as carrying heavy bags on their backs up steep mountain-sides. Nor were they

rare or exceptional; he found them by hundreds. Naturally he inquired what their diet was, and found that they lived mostly on Bulgarian butter-milk, which had been exposed to a peculiar microbe called the Bacillus Giganticus, which destroys vast numbers of colon bacilli every day, and which multiplies so rapidly that the colon bacilli are almost exterminated. In this connection I might mention that a very youthful eighty-year-old friend has just told me that since he has been taking five to ten grains of compressed yeast after every meal he seems to have gained a new lease of life. Perhaps it acts in the same way as the Bacillus Giganticus.

With regard to diet for people of sixty years of age and over, although I am not a vegetarian, nor would I say that an absolutely vegetarian diet is the only one people over sixty should use, yet I would say that one requires very little meat between sixty and one hundred. The colon bacilli, which I have already said, are practically the bacilli of old age, because they give off ptomaines which burn the lining of the arteries and set up an inflammation which gradually thickens them and renders them brittle, and also diminishes their calibre, yet if an elderly person can take enough exercise and breathe in enough oxygen to burn up this nitrogenous food so that it becomes urea and does not remain in the dangerous condition of uric acid, and if he

can avoid constipation, he can safely eat a small quantity of meat daily up to his hundredth year.

A distinguished member of the medical profession, one of the world's great surgeons, and who was in excellent health up to a few months of eighty years, told me that for many years past he had made his breakfast almost exclusively of oatmeal porridge. Although he had a very expensive cook who prepared many courses for the rest of the family, he believed so firmly in and he was so fond of oatmeal porridge that he had it for lunch as well as for breakfast. If one tires of rolled oats or oatmeal porridge, there are many other kinds in order to relieve the monotony; thus cracked wheat, which includes all the nourishing part of the grain, makes an excellent porridge, and with plenty of milk and a little sugar on it, and sufficiently solid, would be an ideal brain food for clever people. Besides that, another excellent porridge is corn meal, made from Indian maize, of which enormous quantities are consumed in Canada and the United States. This corn meal is hardly known at all in England. The thousands of bushels of Indian corn which are imported, and of which the United States has two thousand million bushels a year surplus, is only used for cattle and chicken food in England, whilst in the United States and Canada, at the very highest priced hotels, corn meal is used in many different ways by the very wealthiest people, either

in the form of corn gems with one-fourth flour, or in the form of porridge, which is soaked overnight and boiled in the morning, or in the form of the very popular "corn cake," which looks something like the English sponge cake, and which is eaten hot with butter and maple or golden syrup. A number of people to whom the author has recommended this, have expressed their satisfaction with it, and their intention to make it a permanent article of their diet for the rest of their lives.

A recent writer says: "Constipation should be prevented rather than cured. It is an unnatural condition. Sedentary employment, especially when carried on continuously indoors is one of the principal causes; muscular exercise is essential to the proper performance of the intestinal function. Therefore those who must sit for hours at a desk for a livelihood should make it a rule to have their morning and evening walks regularly, when constipation will trouble them but little. Thousands of people systematically neglect their bowels. Instead of choosing an hour and a minute while in early life and acquiring the habit which they will obey all their life, they have no regular time, or if they have one they will change it on the slightest pretext. We are all born with regular bowels and when they become constipated it is because of some error of omission or commission, either wilfully or by ignorance.

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When this trouble is actually present there are several ways of curing it which I will try to show. First, if you are not drinking six glasses of water every day in addition to what is contained in the food, then you should learn to drink it. When I have given this advice to a great many people who have consulted me for constipation or some of the many diseases directly resulting from it, many of them have replied that they had never drunk a glass of water in their life as such, and that they never seemed thirsty. I have answered that many people cannot play the violin, but if it were a matter of life and death to learn to play it there is no doubt they could learn; and that drinking water is by no means so difficult as that. Besides, by learning to drink six glasses of liquid a day we may make a concession and allow them a wide choice. There is cold water, hot water, sweet water, lemon water, and salty water. Even in addition to these five varieties the water may be flavoured in various ways. Hot weak tea, hot beef tea, barley water, orange water, weak lemonade, weak black coffee, Vichy water, soda water, and many other varieties. But it must always be remembered that the nearer it approaches to plain water the more useful is it to the system. In the form of milk it is not a beverage at all, because it is already saturated with sugar and salt and albumen or cheese and butter in the form of cream. If

you say you will take it any way I advise I would say take two tumblers of water out of the tap with a pinch of ordinary salt in each tumbler while dressing every morning. About half-way between breakfast and midday meal take a glass of cold water with a few drops of lemon juice squeezed into it. At four o'clock a tumbler of hot water with a cube of Oxo or the equivalent of fluid beef. That makes the fourth. Then between nine and ten at night or an hour before retiring you can take two tumblers of hot water in each of which you have dissolved a large lump of loaf sugar. Although sugar is generally much dearer in France than in England still about ten million of people drink their eau sucrée every night. If sipped hot on a cold winter's night it will warm you up before going to bed. The writer spent several years of his boyhood in Scotland in the family of a doctor who was a very celebrated man in his time, and every night the routine was that a pint of well-made, very thin, but nicely flavoured gruel was brought into the dining room at 9.30 for each person. I have said that the nearer to pure water our beverages are the more good they will do and the more things dissolved in them the worse they are. I mention this again because thousands of people have a mistaken idea about milk, a mistake which brings on many troubles and especially constipation. One of the worst mistakes of all is to wash down big slices of roast

beef with copious draughts of new milk. Now, while milk is a good food for children under certain conditions, it is not at all suitable for the elderly. Let us see what Sir Henry Thompson says about it.

"Most persons might naturally be aware that the primary object of drink is to satisfy thirst, which means a craving for the supply of water to the tissues—the only fluid they demand and utilize when the sensation in question is felt. Water is a solvent of solids and is more powerful to this end when employed free from admixture with any other solid material. It may be flavoured, as in tea and otherwise, without impairing its solvent power, but when mixed with any concrete matter, as in cocoa, chocolate, or even with milk, its capacity for dissolving—the very quality for which it was demanded—is lost in great part. So plentiful is nutriment in solid food that the very last place where we should seek that quality is the drink which accompanies the ordinary meal. Here at least we might hope to be free from an exhortation to nourish ourselves when desirous only of allaying thirst or moistening our solid morsels with a draught of fluid. Not so. There are some persons who must even wash down their ample slices of roast beef with draughts of new milk—an unwisely devised combination even for those of active habit, but for men and women whose lives are little occupied by

exercise it is one of the greatest dietary blunders

which can be perpetrated.

"One would think," he continues, "it is generally known that milk is a particularly nutritive fluid, adapted for the fast-growing and fattening young mammal—admirable for such, for our small children, also serviceable for those whose muscular exertion is great, and when it agrees with the stomach, to those who cannot take meat. For those of us who have achieved our full growth and can thrive on solid fare it is often superfluous and even mischievous as a drink."

Another recent writer says: "It is very important to warn people over sixty not to limit their diet to such articles as are completely turned into a syrup of sugar or peptone, every drop of which will be absorbed into their blood through the lymphatics. That is why we urge them to live largely on stewed fruit and coarse vegetables, such as spinach, cabbage, cauliflower, turnips, beets and carrots, precisely in order to get a bulky residue, and thus avoid the auto-intoxication of constipation."

Of all the laxatives, rhubarb is the best, because it produces large, soft stools, and it can be taken for years without causing habituation. It has a mild peristaltic effect and increases the activity of the intestinal glands. Other useful drugs are cascara, senna, podophyllin, leptandria and sulphate and phosphate of soda, the two latter may be given with

advantage in a large cup of hot weak tea slightly sweetened with condensed milk at 6 or 7 a.m., and each patient will soon find for himself the quantity he must take to guarantee a full movement after breakfast. In this connection let me say a word of warning against taking sulphate of magnesia for constipation. This salt, unlike phosphate and sulphate of soda, has the faculty of destroying enormous numbers of red blood corpuscles, and I have seen a great many people become so anæmic thereby that they had a narrow escape with their lives; indeed, in one case, death was evidently due to this cause. It is more suitable for the full-blooded, red-faced, overweight man whose blood vessels are almost bursting with red blood. We should also warn such patients against eating fine, white bread, pastry and cake; also against drinking milk instead of water. Brown bread is much better than white, as it stimulates the intestines. Milk is constipating, because in elderly people the gastric juice seems to be acid and immediately curdles a tumbler of milk into a large hard mass of solid cheese. Such people should only take milk in sips or alternately with bites of bread which breaks up the curd into small pieces; or better still in the form of bread and milk, or porridge and milk.

The diet of the aged should be regulated by the state of the teeth, stomach and intestines, and by the metabolic activity of assimilation. The elderly

require less food because their activities are less. Owing to the changes in the stomach digestion is slower and weaker; with bad teeth the food is not properly masticated, and consequently it is swallowed in lumps which are digested with difficulty or not at all.

Dentistry can remedy this defect, and here again it is often necessary to play upon the patient's pride in appearances to induce him to undergo the annoyance and sometimes positive distress connected with the making and wearing of artificial teeth. Women submit to these discomforts more readily than men, for their natural vanity induces them to appear attractive even when extremely old. Gourmands who are accustomed to eat too much will not break themselves of the habit when they become old and gastritis and diarrhœa make a limited diet imperative. The oft-repeated advice that the aged should eat little and often is irrational, for digestion is naturally slower in old age and frequent feedings keep the stomach constantly at work, there being always a mass of food in the stomach in different stages of digestion. This is the most frequent cause of flatulence, heartburn and senile gastric catarrh with its attendant gastrodynia and pyrosis. Therefore food should be taken not more often than at five-hour intervals at fixed hours each day.

A recent writer suggests the following simple

directions will serve better than any fixed diet list. "If food cannot be masticated it should be chopped up fine, in the form of mince or porridge or pudding. No food should be taken between meals. Milk. buttermilk, weak tea, coffee, strained cocoa can be taken preferably at meals. Meat should be used sparingly, not oftener than once a day, preferably underdone. Pork is forbidden. Fish and shell fish may be taken if they do not produce ill effects, but if they harm once they will harm again. The cereals and the breakfast foods are all good. Wine has been called the milk of the aged. Light wines, like hock, moselle, claret and burgundy are the best. Port, sherry and madeira contain too much alcohol, and should be used sparingly. Beer and ale may be taken if they do not cause flatulence or heartburn. Beef tea or eau sucrée may be taken before retiring to bed, and is better than hot milk. very old people are liable to wake during the night and as their danger hour is between 4 and 6 a.m., it is well for them to have a glass of milk and a few biscuits to eat and drink together, after which they will generally go to sleep again for three or four hours. Gastric or intestinal disorders may necessitate a modification of these rules. I had one patient who had splendid health from seventy-five to a hundred, and who had a chop or a steak every day at one o'clock early dinner, and never seemed any the worse for it.

The effect upon the temper of eating too much meat.— All the wildest and most ferocious animals are noted for their fondness for meat; while the herbivorous animals are well known for their gentler disposition. A gentleman well known to me as a most kind-hearted man consumed large quantities of rare roast beef and was subject to the most violent outbursts of temper. When he was in one of these rages his temper would be quite ungovernable and he would even destroy his own property while the members of his family would run in terror from him.

Many years later, when I was in practice, a woman came to consult me for black and blue bruises all over her body, especially on her arms. On being asked how she got them she was loath to answer, but finally said that her husband beat her severely almost every day. Remembering the gentleman who used to throw his own furniture out of the window, and his large consumption of meat, I inquired from the woman if her husband was a large meat-eater.

She answered that he ate red meat three times a

day and at some meals as much as a pound.

I advised her to cut down the quantity gradually and make up with other things and give as an excuse that she could not afford to buy so much meat if he complained.

After several weeks she came to thank me for the

great improvement of conditions in her home; and that her husband did not beat her half so much. I encouraged her to persevere until his allowance of meat was reduced to half a pound a day all told.

The next month she reported that he had practically stopped beating her and had even begun to show some signs of tenderness. Some years later she was seen and said that her husband had almost given up meat and was now one of the most loving of husbands and kindest of fathers.

While a man who is working hard at labouring work might eat meat three times a day without hurting him, it is not as a rule such a man who eats the most meat, for the simple reason that he cannot afford it. When travelling in Italy I was surprised to see the splendid stonemasons who were building a great hotel of rough masonry, which latter was to be covered with a plaster made of pulverized marble, leaving off work at midday and sitting down on the ground under a shady tree to eat a vegetarian dinner which their children had brought a few minutes before in a small basket.

First they drew out a large cucumber, which at that time cost about a halfpenny, although it weighed over a pound. Then they took out about the half of a 2 lb. loaf of bread and then a three half-pint bottle of cheap wine valued at about a penny. After peeling the cucumber they cut it into quarters longways and ate a bit of the juicy vegetable with a

bite of dry bread, washing it down occasionally with a drink of wine. Then the children carried back the empty bottle in the empty basket and the tired workmen lay down for a siesta during the remainder of their dinner hour. Never shall I forget the kindly greeting of fathers and children before and after their meal nor the generally happy and contented look of these splendid workmen. One could see the massive walls growing upwards day by day. There is no need to implore the public to buy housing bonds there. These were true vegetarians, for no animal product entered into their meals; only the fruit of the vine, the vegetable of the cucumber, and the cereal flour of wheat. No milk or butter or eggs or cheese, which are all animal products.

The people who can afford to eat meat in considerable quantities are the very ones who require it least, those whose occupations are sedentary. The writer once had under his observation a large number of civil servants who sat at their desks for four hours—from nine to one—and then went out for a hearty three- or four-course meat dinner, during which they consumed two or three times more fuel than they could burn up. Within an hour most of them were nodding over their work, while quite a few simply could not keep awake. Their chief, who worked right through the dinner hour without taking any food except a cup of tea,

never felt sleepy, and outlived them all, although he was a much older man.

As for the man of sixty to ninety, if he is a very busy man it may be impossible for him to lie down for half an hour before lunch every day, but if he is his own master and can manage it, there is no doubt that it is a great help to digestion to come home, say, at half-past twelve and lie down even without sleeping, until one. By this means the flow of blood to the muscles and brain is arrested and allowed to go to the glands of the stomach in time to prepare a bountiful supply of appetite juice and gastric juice, all ready for the arrival of the food at one.

Constipation is a cause of a great deal of illness of people of all ages, but it is especially the bane of existence for elderly people. Among the causes are degenerative changes in the muscular walls of the intestines by which there is lessened movement or peristalsis. This in turn is due like all other weakness of muscles to want of exercise. If an elderly person is in the most perfect bodily health of both body and mind, and at the age of sixty should be discharged from his situation and then sits in a chair all day because he has nothing to do, both his brain and his muscles will degenerate and become weakened, because his heart will beat slower and slower and brain and brawn will receive less blood. Applied to the intestine which is nothing more or less

than a muscular tube, which, ceasing to contract, allows large quantities of waste products to stagnate there, decomposition sets in and myriads of colon bacilli develop and give off ptomaines which when absorbed by the blood, poison the brain and nervous system.

The nerves of hunger are no longer able to transmit their demands for food; consequently there is no appetite and their strength fails. Another cause for constipation in people over sixty is that for the above or some other reason they do not eat sufficiently bulky food in order to make a residue for the bowels to work on. This is a most important thing for everyone to know that it is not sufficient to take exactly the amount of condensed nourishment which they require for their needs, but with it they must take many times that quantity of bulky indigestible material which will give a large residue from which all the nourishment has been extracted, but which will still give enough bulk for the walls of the intestine to work upon. I have already mentioned this, but it is so important that I again call attention to it.

CHAPTER XI

THE HAPPY LOOK

F you have led a useful life and intend to be useful to others until your very last days on earth, you are almost sure to feel happy. And if you feel happy you are sure to look happy, and when we come to analyse the happy look we find it is nothing more or less than the contraction of certain sets of muscles hidden under the skin of the face to which one end is attached, and the other end usually but not always being fastened to one of the bones. These muscles, like every muscle in the body, are under the control of a nerve or tiny telegraph wire which is in connection at the other end with the brain. When your brain feels contented and happy with yourself and every one else, orders go down automatically to contract all the happy muscles, the principal ones being the levators of the angles of the mouth. Like all muscles, the more these muscles are used the stronger and bigger they become, but if you seldom or never send down orders for them to contract they will gradually get weaker and smaller, and at last disappear, so

that when you want to contract them you will not be able to do it. The orders may come down but your faithful willing servants are not there; they have gone because you never called upon them to serve you. There are other groups of muscles under the skin of your face which pull down the angles of your mouth and contract the skin over your eyebrows and tighten up the muscles surrounding your mouth, and they, too, will increase in size and strength if you are always unhappy and discontented with yourself and every one else, and if you are constantly sending down angry orders over the wires. But please do not forget that once muscles are developed by frequent use, they remain large and prominent even when they are in repose. The athlete's well-developed muscles in his arms and back and legs do not disappear when he is asleep; no, they remain very evident. And the muscles of anger which have been used a thousand times a day grow very big and when someone comes along in whose presence you would like to appear pleasant and kind you cannot do it, for the happy muscles which have never been used are gone, while the over-exercised muscles of anger are there beneath the skin and sleeping or waking they are always there. And when you are dead and no more orders will ever come down to either smile or frown the muscles which you used most will be the most prominent, and the many

friends who come to say good-bye to your kind, dead face will remark what a sweet expression you had; or if you went through life finding fault and scolding and frowning and hating, there will be no friends to notice the big muscles pulling down the angles of your mouth long after they received the last orders to look cross. How often when we look at the face of a sleeping child who has been laughing and playing all day we still see the smile that won't come off because it is deeper than the skin.

The moral of all this is to be useful and happy all day and every day in the year, and sooner or later a smiling expression which keeps on smiling with a smile that will not come off will gradually make its appearance.

When you hear of a play or a moving picture as one of a thousand murders do not go to it; it will hurt your face. But if you hear of one with a thousand laughs that is the one to go to every time it comes.

CHAPTER XII

WORK FOR THE ELDERLY

NE of the greatest mistakes perhaps which elderly people make is giving up work of their own accord simply because they have reached some particular age. One man says: "If I live to be sixty I will retire and enjoy myself for the rest of my life," but like the man in the parable he is very foolish, when he said within himself:

"What shall I do, because I have no room where to bestow my fruits? And he said, This will I do: I will pull down my barns, and build greater; and there will I bestow all my fruits and my goods. And I will say to my soul, Soul, thou hast much goods laid up for many years; take thy ease, eat, drink, and be merry. But God said unto him, Thou fool, this night thy soul shall be required of thee: then whose shall these things be, which thou hast provided? So is he that layeth up treasure for himself, and is not rich toward God."

And we can say with equal truth that the man who thinks that he is going to be happy after sixty by

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leaving off every occupation, or even leaving off the occupation by which he has earned his livelihood and accumulated riches up to the age of sixty is making a great mistake in throwing the whole machinery of his life out of gear. Over and over again I have been consulted by Government officials and wealthy merchants and even mechanics as to whether they should accept their pensions, which in some cases were almost as large as their salaries, in order that they might stay at home and sit beside the fire, or in some cases lie in bed until midday every day. I have urged every one of these people to continue their ordinary vocation, and not to vary their routine by a single iota, with the result that many of them went on in almost perfect health to the age of seventy-five. When they were compelled to stop work at that age, although they had never missed a day from work, their health began to fail. Inside of a year they are generally dead, from no definite diseases in most cases, but simply because rust and dry-rot got into their machinery, and the wheels would not go round. I have often illustrated this to them by comparing the human machinery with an old wagon, which had been kept in good repair and never left a day to stand idle in the sun or even in the wagon shed, but which made its required round of forty miles a day. At first sight, one would say that that wagon would be used up exactly in proportion to the number of

miles it ran. As a matter of fact it is well known that if a wagon is used constantly and kept well oiled and the bolts tightened up, and a coat of paint on the woodwork from time to time it does not get used up at all. Oliver Wendell Holmes' "one-horse shay" was so well made and kept in such constant use, that it had never rusted and no one part was weaker than another. When the end of its life had come it went to pieces in a pile in the middle of the road, and there were no pieces to pick up Our lives should be something like that. Human beings, having reached the age of one hundred or more years should just dry up and wither away in full possession of their faculties to within a few days of their death.

It is very cruel and unjust I may say for great Corporations who have profited by the faithful honest labour of an employee, from the age of fifteen to sixty to tell him that his working capacity has fallen off ten or fifteen per cent from what it was at forty-five, and that therefore he must get out and give his place to a younger man.

I feel convinced that this is financially a tactical blunder on their part, as a man of sixty who has been that long, in a railway company for instance, must know a great deal which it requires years to learn, and sometimes lives as well as large amounts of money could be saved by keeping such a man on as long as he is in good health. When he is forced

out, another man has to be trained at great expense to take his place, while, if instead of being turned adrift he were promoted to some other branch of the work, where the Company could still avail themselves of his loyalty and devotion, as well as his technical knowledge, they would save a great deal.

A man of sixty, in many positions, is much more valuable than a young man of twenty-five, for several reasons.

He requires much less sleep, much less food, much less amusement, and fewer clothes, so that he is hardly at all exposed to temptation, which is ever present to the younger men of living beyond his means. The time thus saved from these ways of spending it can be given with advantage to the interest of his employers.

Among mechanics, such a man makes a valuable time-keeper, or foreman, or he might even continue at the very work he has been doing for many years. If his productive capacity be somewhat reduced—as has been maintained—then why not take off his salary as much per cent as his productive power is lessened.

Like all visitors to Paris, I was struck with the superb cleanliness of the city, which has earned for it the name of "Paris the Beautiful." On inquiry I found that at four o'clock in the morning an army of forty thousand elderly men and women go forth

armed with a broom and bucket, and with a hose and a hose-man for every group of one hundred sweepers. He fills their pails with water and they systematically start from the end of a long street and work right through it to the other endsometimes a distance of several miles, and yet by eight o'clock in the morning every street in Paris has been washed stone by stone, or foot by foot of pavement. These elderly people receive a comparatively small sum of one franc (or 10d.) for their four hours' work, which is just 2½d. an hour, and yet it amply suffices for all their needs. True they cannot take a five-course lunch in the Palais Royal, nor go to the Avenue de l'Opera, but they can get one yard of delicious bread and sufficient coffee and sugar to wash it down with, and perhaps at midday a little soup with vegetables, which amply satisfies their wants. They still have enough left over to pay their son or daughter a small rent for a little attic room, to which they can retire about eight or nine o'clock at night. Those people are not only leading a useful life, but one might almost say a happy one, for they have a home, with a little money in their pockets and they have their children and grandchildren around them.

This is a very different thing from the English method of building imposing workhouses, erected and maintained at great cost to the taxpayers, in which they are forced to be idle. While speaking

of the English method, it has occurred to me more than once that although meant well and conferring a great boon upon the elderly English man or woman, their life is not without some little drawbacks—one of them being that they feel sure that they are eating the bread of charity, as well as living a life of idleness.

No matter how they might long for a halfpenny or pennyworth of some little necessity or luxury, they cannot have it, and I heard but yesterday that they have, for those who have poor teeth and cannot masticate their food, what they call No. 10 diet, which consists of beef tea and rice pudding every day, year after year. A few vegetables at a farthing per lb., which is the market price in the town, and at the time in which this book is written when bought in quantities, would be a longed-for luxury, but are absolutely beyond the possibility of being obtained. And the feeling of having even one sixpence in their pocket, to say nothing of spending it, is for ever taken from them the day they enter those doors.¹

Many of those who go there at fifty-five or sixty have been thoroughly trained and highly paid mechanics who have lost their positions through some trifling illness, or mistaken habits, such as excessive use of tobacco or alcohol, and who are still able to turn out from fifty to sixty per cent

¹ There are some exceptions to this rule.

of their maximum of production in whatever line of work they were in.

I wish to make this plea for these elderly men and women, not only that they be given work instead of being compelled to sit all day with folded hands, but that arrangements be made for such work being done for the citizens or ratepayers at moderate charges. The ratepayers bear the burden of the costly buildings in which they are housed, and in return should derive some benefit.

These wounded brothers in the battle of life should be helped up and repaired, so that they continue to be self-supporting, as could easily be arranged, by doing the city work at forty to sixty per cent of the ordinary wages, and that younger men should seek their living at something else, instead of crowding the elderly man into his grave long before his time.

Happily, in this very town in which I am now living, this is done to a large extent, with the result that it is one of the cleanest if not the cleanest town in the whole of England.

To show how mistaken are the average ideas on the capacity, or rather incapacity, of the elderly to earn their living, I have just had among my patients a woman who has never yet eaten a bite that she has not earned, although seventy-two years of age, nor has she before drawn a single shilling of the National Insurance Fund, into which she

has paid regularly every week since it was installed. She does fine washing and ironing in the best laundry of the town, patronized by the local gentry and nobility, and for which she receives 3s. per day, and her free meals, for six days in the week, which amounts to 18s. Out of this she gives 6s. a week for the rent of her home, which is her castle—like every Englishman's home —and still she has 12s. left over, or £31 4s. a year, for clothes, or even for helping less fortunate older brothers and sisters. You will notice that these wages though not extravagant, compare favourably with those of much younger people engaged in the same class of work, in domestic service. I have great admiration for this humble woman, because she shows herself to be in possession of a good deal of character to decline to become a charge upon the ratepayers of her town, which she might easily do, and to refuse to avail herself of the rights which she undoubtedly enjoys to take a few weeks of idleness at the expense of the National Insurance Fund, as so many others do, who are much more able to work than she was when she made her modest demand for one week's illness from the Fund, at the end of which time she asked for a certificate to go back to work.

On talking the matter over with the matron of one of the finest workhouses in the world, fitted

with an up-to-date laundry, with the very latest and most perfect machinery, she told me that the women whom I saw doing this work every bit as well, if not better than that turned out in the ordinary commercial laundry, received nothing for their work. The matron had no power to reward those who did the best work with anything else but an extra cup of tea, which was not on the bill of fare.

Why not equip every workhouse with an up-todate laundry, and why not take in laundry work for the overworked mothers of large families of little children.

These mothers sit up far into the night mending and sometimes making the clothes worn by the children, as well as by her husband and even by herself, and they look forward to the heavy washing every Monday morning with feelings of dread, and they wonder when the last straw will come which breaks the camel's back.

What a boon if this magnificent modern laundry in the workhouse could be used up to its full capacity, doing the washing for these poor honourable and honest mechanics' and labourers' wives, as well as for the poor shop girls and clerks. The working man's wife cannot, of course, afford to send her washing to an ordinary steam laundry, but in the case of the magnificent laundry belonging to the ratepayers and supported in part by these

very working women's husbands, no profit is expected, and no salaries would have to be paid, seeing that they have already a most capable set of officers who can direct the inmates, as I saw them doing.

It would take a very small stroke of genius to increase the capacity of this laundry without any expense whatever, simply by throwing the doors open to another twenty or forty or sixty elderly people, like the woman above referred to of seventy-two; people who are now barely existing, and threatened from hour to hour with being turned out of their homes, or going a whole day without a meal or shivering with cold, as I have seen them doing in houses which it was utterly impossible to heat with the only means they had, namely, the little grate which lets nine parts of the heat go up the chimney, and only one part come out in the room.

The laundry which I have described, is heated by hot water, has beautiful inlaid floors, and above all, plenty of room for putting in two or three more machines, so that everybody in that town of twenty-one thousand could have their clothes washed in a municipal laundry owned by themselves and run at a profit, and yet the cost for which would be only trifling.

One might raise the objection that this would interfere with the profits of the laundry companies

in the town, of which there are two, but my answer to this objection is:

First, that a municipal laundry would cater for a totally different class of people who cannot now afford to send any of their laundry work to these laundries on account of the price, and, on the other hand, those who can afford to pay would, for obvious reasons, continue to send their clothes to the more select and private establishments, and

Secondly, the competition of a municipal laundry would be no worse than that offered by the thousands of Chinese laundries which sometimes occupy many shops in the principal streets in many of the cities of the United States, and in some cities in

England.

Thirdly, those private laundries already have to compete with other private laundries from towns twenty miles distant who send for and deliver by fast automobile the washing of the best class, while my suggestion would not compete at all for those classes. The competition of the workhouse laundry, even if it did compete, would be lightening the burden of the workhouse on the taxpayers, so that every payer of taxes who was willing to have his laundry work go there would be helping his own town; not only by reducing the running expenses of the workhouse, but also by reducing the number of people who must eventually fall back upon the taxpayers with increasing years.

I have just read in Miss Ethel C. Hargrove's interesting book, *The Charm of Copenhagen*, the description of her visit to the Danish workhouse.

First of all she notes the contrast of the radiant white buildings with the drab melancholy air generally associated with English workhouses. White swans are swimming in the moat which surrounds it, and she notes the courteous manner in which the party was received and shown over the building.

The inmates are divided into two classes: those who cannot get work and those who would not take it if they could get it. There were sixty-five people in the infirmary divided into small wards of three and five beds each. There were three nurses in charge of them, but no resident doctor, in order to save expense, but one could be sent for at a moment's notice.

There were many pictures in the corridors, and the wards were light and cheerful with cotton curtains and blue wooden chairs. The convalescents were attired in light blue dressing-gowns. There were large balconies for the open-air treatment of consumption. There was a very pretty chapel decorated in white and green with a white and green pulpit and a terra-cotta floor.

What interested me most was her account of the big laundry where not only the inmates' clothes were washed, but those of other institutions. Then again, men and women work there together. There

was a wonderful drying machine which revolved eight hundred times a minute. Nearly everything in the huge laundry was worked by machinery, including a large mangle for tablecloths and sheets. Then she went to the kitchen and saw the food being cooked and huge saucepans twelve feet in circumference, heated by electricity, some filled with potatoes and others with coffee. I was interested to hear that the workers received a different diet from non-workers. She also noticed ingenious

machines for peeling potatoes.

The working part of the institution is like an industrial town; some were weaving horse-cloths, blankets, sheets and material for men's and women's clothes. Then there were rows of workshops for tailors, blacksmiths, carpenters, bookbinders, printers, cabinet-makers and makers of paper bags; while the unemployable had to pick a certain quantity of oakum, and others had to break small stones. But what pleased me most of all was that every one was allowed a certain sum per day for their work, in addition to their board and lodging. Although not more than a few coppers it mounts up to a considerable sum which is paid them when leaving. There was also a large garden giving occupation for many, and, although she does not mention it, I presume they were allowed to sell their vegetables. In this connection I was gratified to read that the facilities of the workhouse kitchen were available

for cooking on a large scale in order to supply bountiful meals at twopence each to hundreds of deserving old people, as well as to provide hot dinners three times a week during January, February and March to poor children at the cost of twopence per head.

CHAPTER XIII

THE EFFECT OF TOBACCO AND ALCOHOL ON LONG LIFE

HIS is a question which has been discussed a great deal, but on which it is difficult to give a definite opinion. We meet with people between ninety and one hundred, and even over, who have smoked all their lives, and occasionally one hears of a man who claims that he has never gone to bed sober for the last fifty years, and who has reached one hundred.

I was very deeply impressed on the first day of my arrival in London many years ago when I attended a post-mortem held by the late Dr. Sutton. He became celebrated by being one of the physicians in attendance on his late Majesty, King Edward, when he had typhoid fever. It was his duty to examine the bodies of the ten people who died every day in the London hospital. At that time eight of the ten owed their death to alcoholic drink, but I had come from a part of the Empire where drunkenness was practically unknown or where certainly deaths from alcohol were very

rare. When Dr. Sutton cut through the liver and the lobules stood out like hobnails on the soles of working men's boots, and he turned round to me and asked what was that; I had to confess that I did not know, and that I had never seen it before. An audible smile went round the post-mortem room at my apparent ignorance. Dr. Sutton reproved them, and said, "Wait until you find out where this doctor comes from, as this condition of hob-nailed liver may not be known in his country"; and when I told him where I came from, he said that he had often heard that this condition was unknown in that country. If anyone told me that taking raw whisky or gin on an empty stomach before breakfast without water or food caused no damage, I would simply say "I do not believe you"; but if some one told me that he was nearly one hundred and that he had taken exactly two ounces of rum or whisky diluted with a tumbler of hot water and sugar at a meal-time, or after a meal, once a day, I would quite believe him when he said that it had never done him any harm. Certainly a poison that takes one hundred years to kill is a slow-acting one, and its bad effects may be fairly ignored. In fact, a relative of the writer was given a present of a hogshead of very old Jamaica rum by the husband of a lady whose life he had saved. When this arrived it was too big to get into the house, so it had to be sent down to a warehouse to be bottled.

He began taking two ounces of this every night at dinner with hot water and two lumps of sugar at the age of forty-five, and at ninety he still had quite a few bottles left. This gentleman was a very small eater and drank no other liquor, and never pure, but always well diluted, and evidently it did not hurt him.

On the other hand, we have known at least twenty champagne drinkers to die at about fifty or between fifty and sixty, whilst we have known at least a hundred pure gin drinkers or pure whisky drinkers or brandy drinkers to die from their liver, or kidneys or heart, at forty. With regard to beer, there is not the slightest doubt that it is the cause of a great deal of unnecessary suffering, as well as of early deaths. Beer and porter have caused a hundred times more gout and rheumatism than cold and exposure. Sir James Grant, M.D., told me that he had for fifty years or more attended many thousands of lumbermen, and coureurs de bois, who lived almost entirely on hydrocarbon and who ate almost no nitrogenous food, and who did not get any beer and very little milk or cheese, and that among them rheumatism was unknown. It is almost a maxim that one cannot, get rheumatism without eating it, or gout without drinking it, and that unless one eats meat or cheese or drinks milk or beer, they cannot get gout or rheumatism. True port wine used to be a common

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cause of gout, and one of the few cases of gout in Canada, as far as the writer knows, during the last thirty years, was in a gentleman whose father died of gout, and who insisted that his having it was the fault of his father in transmitting a gouty heredity. But this gentleman forgot to mention that his father drank a bottle or two of port wine, with so many hundreds of grains of acid in it, every night, and that he was a close second to his worthy parent in his capacity for port.

When it comes to the question of tobacco I can speak with greater certainty. During the War I was in charge of an officers' hospital and also had an opportunity of examining many men with alleged heart disease; at other times I have examined great numbers of men who were drawing large pensions for disorderly action of the heart, and I can truly say that thousands of men were invalided out of the army as the result of excessive abuse of tobacco. What is excessive smoking? After comparing the symptoms with the number of ounces used per week I have come to the conclusion that one ounce or thirty-five cigarettes a week is the limit of safety. It makes little difference whether the ounce is bought for the pipe or in the form of cigarettes, and I have induced several hundreds of men to cut down their tobacco to this amount per week. This allows them five cigarettes a day or one or two pipes.

When I was a young doctor at the London hospital the doctor in charge of the outdoor eye department told me to go into the dark room and examine the eyes of four patients who were stone blind. I examined their retinas with the opthalmoscope very carefully, but could find nothing abnormal and went back to him with this report, saying that I was at a loss to understand why they were blind. He said they were cases of tobacco amaurosis and that so far the disease was only a functional paralysis of the optic nerve. They would all four regain their sight perfectly, he said, as he was giving them large doses of counter poison, namely, strychnine. I did not remain there long enough to see the cure, but they were improving. Many times during the last six years when I saw the great number of blind men returning from the various parts, and when I have looked at the enormous profits and dividends of the tobacco companies and the thousands of millions of cigarettes they were able to send to the soldiers, I naturally remembered Dr. Stephen McKenzie's words at the London hospital. That was many years ago, but during all these years I have been trying to save men who were falling into ill-health and poverty through excessive smoking. The saddest of all these cases were a few doctors who had to give up large practices owing to blindness, so that they would have been reduced to the greatest

straits had it not been for their noble wives who turned their homes into boarding-houses and had to work early and late while their stupid husbands sat all day smoking themselves blind.

When the soldiers were enduring the frightful hardships of the trenches with almost certain death staring them in the face the doctors who knew the danger of this excessive number of cigarettes (as many as four hundred a week) like myself remained silent. Let the poor boys smoke and be merry for to-morrow they will die. But now the War is over is it not our duty to tell the truth about tobacco in excess? It is one of those poisons which does not kill directly, but indirectly by its action on the heart. Everybody's heart is not only strong enough to do its ordinary work, but it also has a reserve power of twenty-five or fifty per cent. Excessive smoking kills this reserve power so that an ordinary severe illness from which a non-smoker would quickly recover, prostrates the heavy smoker who, having no reserve power in his heart, succumbs to heart failure.

Over and over again in my professional career, for I was a busy general practitioner for many years, high-class mechanics came to me saying they would have given up their highly paid jobs that very day had they not met a friend who persuaded them to carry on one day longer, until they could come to me that evening. Recognizing that the

five or six ounces a week of strong tobacco was the cause of their trouble, I gave them large doses of the antidote and persuaded them to reduce their tobacco and to stick to their job. As far as I can remember every one of them soon recovered and many brought a half-dozen or a dozen friends who were in the same plight.

As for clerks who lost splendid chances and of some who gave up tobacco altogether, I could fill many pages telling of the almost hopeless struggle of some, and of the successful battles of others. When I see a once well-bred gentleman walking into the beautiful dining-room of a first-class hotel and begin smoking, utterly indifferent to the suffering of the babies and children and waitresses, the last of whom will have to breathe the air all day which he has polluted, I fully realize what a hold it must have upon him, in order to make him so absolutely selfish.

I have talked with many blinded men who had never been wounded nor even had shell shock, who when asked how did they account for their blindness replied just the hardships of the War. They were all excessive smokers.

When I pick up the United States Commissioner of Labour's report and read that man for man each one there produces two to three hundred per cent more than here, I wonder why it is, and whether excessive smoking does not render men apathetic and indifferent.

The reduced output and increased cost of production has brought shipbuilding almost to a standstill, and it has always been one of our mainstays in paying for imported food. I recently visited one of our greatest commercial shipyards, and practically every man was smoking at his work, and I wondered whether it had anything to do with the general slacking.

Our Government is doing what it can to reduce consumption of tobacco by making it cost more. Drunkenness has been enormously lessened by raising the price of alcohol, and perhaps the increased cost of tobacco may lessen the amount spent in this way. But seeing the great evils it is bringing on women and children by stunting their growth and making them apathetic it might be a good way to raise revenue or lessen the imports and to help the exchange if the tobacco duty were considerably increased.

Doctors all over the world look at the tongue because if it is foul and dry it is a sign that all the digestive apparatus is out of order. But nearly all smokers' tongues are foul and coated and look like what is called a smoker's tongue. A dry, brown-coated tongue generally means that the liver has stopped working. I heard of a case when the doctor after looking at such a tongue told the patient he was sorry to say that his liver was gone, to which the patient replied I

am glad to hear it, for it has bothered me all my life!

Is there any cure for excessive smoking? I think there is. During the War many officers who came under my care while I was Major in charge of the Officers' Hospital at Aldershot, implored me to cure them of excessive smoking. As smoking is in many cases a habit which only asks to give the mouth something to do, I have found the best way to distract the patient's attention away from smoking is to get him to acquire a counter habit of chewing something: either chewing gum or liquorice root. The latter is cheap, wholesome and even nourishing. It comes in little bundles of dry sticks. By keeping a few pieces about an inch long in each pocket of each suit one only has to start chewing a piece whenever he has the desire to smoke. The chewing of this liquorice root actually favours digestion, for it produces a great flow of alkaline saliva which converts starch into sugar.

M. Finot tells us at page 75 of his book that there is a Club of Longevity in the suburbs of New York. At a reunion of the twelve members of this strange society held at Ozone Park, Borough of Brooklyn, their united age was 1100 years. What a fine figure and how instructive, he says. The members of the club no doubt set themselves up as eminent examples to all those who would like to know more about the science of longevity. For they have found out not

only how to extend the limits of old age, but how to vanquish all the many ills which besiege it. When questioned as to their mode of life they all agreed upon one point, namely, in declaring their horror of alcohol and tobacco.

An old friend who recently died at eighty-four told me he had recently consulted an eminent doctor whose last words as he left him were "Between meals alcohol never."

A medical friend has just told me while I was writing this that he used to smoke excessively five ounces a week and that he had given it up in one day because, having tried everything in vain to cure his insomnia, he suddenly discovered that it was tobacco which caused it, and he has never smoked since.

CHAPTER XIV

THE UNMARRIED WOMAN OVER SIXTY

S this book is meant for both sexes the question of the usefulness and happiness of the women from sixty to ninety must receive some consideration, and I must confess at the beginning that it bristles with difficulties.

For the married woman from forty to sixty there is no more useful and happy life than one spent in taking care of her husband and children. If she has been married at eighteen to a man of twentyeight, which are the best ages for a happy marriage, she will be fully occupied with her six children more or less, who will vary in age from six to twenty years. If she has no children, which is a misfortune, she may be lonely during the day while her husband is away at his business. The more of the housework she does herself the better it will be for her. A lady remarked to the writer the other day that Since the War it had been so difficult to get maids that we have had to do the work ourselves and now we have learned to get along without them." From my long experience with childless women I feel

sure that doing their own work will give them a much better chance of being happy than if they were idle. Idleness leads to introspection, and the latter leads to neurasthenia. Many women could escape this misfortune if instead of thinking all day of their own troubles, which may not even exist, they would employ some of their unoccupied time in thinking of the troubles of others, and doing their best to help them.

There are widows who are striving to earn enough to feed a family of small children who would be glad of a little practical help. There are day nurseries to be started and maintained where the woman who goes out working by the day may leave

her little ones before beginning her work.

The writer was instrumental in starting one of these in a congested district in a large room over a fruit shop and which increased so much that it had to move first to a whole terrace house and again to a large family residence in a beautiful park. A great many ladies have found their greatest happiness in caring for a family of more than a hundred fatherless children who are brought there every morning and, with few exceptions, go home every night.

In connection with this home there is a very practical employment bureau, run without charge to either employer or employed. To this bureau any unemployed women can come at eight o'clock

in the morning with her baby or other young children and is offered a seat until the telephone bell rings asking if they can supply a woman for a day's work. The babies are taken from her arms to the nursery and the poor mother is given a card with the address, feeling sure that she has no need to worry about her children. If she proves a good worker her employer pays her 4s. 2d., and writes a few lines on the card which testifies to her willingness and this card is filed each time. She is asked to come every morning, and very rarely does she come in vain. Sometimes a hundred ladies ring up in a day to send a woman at once or next day. This is not a pauperizing institution, for out of her 4s. 2d. she has to pay a nominal sum of fivepence for the first child and fourpence for the second and threepence for the third and so on.

There are many other ways in which women can be happy and useful, even if they are single or

childless widows.

There are thousands of men who have lost their wives and have been left with several motherless children. There is a great need in each of these houses for a respectable and industrious woman as working housekeeper. It is true they would have to work, but not any harder than the average mother with a family.

Their very age of being between forty and sixty makes them specially suitable. Many times women

who have brought up large families successfully and who suddenly find their occupation gone when their children have grown up and their husband has died, have come to me in great distress and told me how unhappy they were without any occupation. Some even said they wished they were dead. But in a few days their views had completely changed because I told them there were thousands of homes where they were urgently needed. I told them that at that very moment there were at least a hundred young married women who could not afford an expensive maid and were doing all their own work and minding their baby. But their own health was suffering because they could never go outside their door because they would not leave their baby alone. I gave some of these poor women the address of a registry office and a recommendation as to character, and within an hour they were leading a happy and useful life.

Serving on the Ladies' Committee of a Women's or Children's Hospital is another means of leading a happy and useful life. I have known many instances of this form of service, and I am convinced that it is an excellent way of spending one's spare time.

I have often been asked the question: Do I recommend the theatre as an amusement for elderly men and women, and I have partly answered it in my remarks on fresh air and sunlight and

exercise as necessary for health. What are the conditions for health in the theatres. First is the air fresh and cool or hot and stuffy and poisoned not only with the breath of a large number of sick and well people, but it is also saturated with tobacco smoke. If elderly people go there in the afternoon or matinée they are missing the valuable sunlight. If they go at night they are losing their precious sleep, and when they return from the theatre although they need not eat a late supper if they do not wish to, yet the temptation is there. If they brave all these drawbacks they should choose a light comic opera rather than drama or tragedy. One often sees in two or three hours on the stage the misfortunes and sufferings of one or even two whole lifetimes, and one goes away with more or less the same feelings of sadness as if it had been real. The better the actors the more real it will seem and the more we will take it to heart. There are other amusements for the elderly which have all advantages and no drawbacks. Fishing out in the woods; golfing out on the sunny meadows of the golf course; boating on the gently moving river; walking through the country lanes; going to picnics and cooking your own and your friends' meals; caravanning with some young people when the weather is fine; working in your garden; playing games on your lawn with the young people; even learning the new dance steps to the music of a gramophone in

your own drawing-room; none of these things will make you sad or keep you up late, and I can recommend them all heartily.

Another question we are often asked is "Do you recommend travel for the elderly?" Yes, if on routes on which modern comforts are available, and from the age of sixty to seventy-five. After that age has been reached there are certain dangers in travelling a great deal. A trip to the Scotch moors or to the French coast, or to our own beautiful south coast towns is quite far enough, and can be carried out in comfort and by daylight. But travelling by night and moving from trains to boats is not suitable for the man over seventy-five. There is one exception, however, which I must mention, and that is a short sea voyage to a warm and sunny climate for three or four months every winter. This is worth all the risk there is, which is not great, and the danger of pneumonia is very real in this country. In a previous chapter I have spoken of the importance of keeping the feet warm and dry, and now that I have mentioned the great danger of the winter in Great Britain during which a hundred and twenty-five thousand people die every year from this cause, I might return to the question of cold and damp feet. During the last few years while leather has been getting very dear, rubber has been coming down in price, and I have found by five years' experience that the latter is

an excellent substance for soles of boots. I have been able to walk about all day through miniature pools of water in the wet streets and yet come home at night with my socks "bone dry." This has a considerable bearing upon the question whether one will die of pneumonia or not. You cannot get pneumonia without inhaling the pneumo coccus. But millions of people do inhale it every day in winter without taking the disease. Why? Because the vital powers of resistance are not depressed, and there is no stagnation or congestion of the blood in the lungs, which prevents the protective phagocytes from coming to the rescue. One pair of good rubber soles will out-last two or three pairs of eather ones, but quite apart from that I would recommend rubber soles as being so much more comfortable and safer during the winter for six months of the year.

Were it not for bronchitis, broncho pneumonia and pneumonia many thousands of people would probably live from ten to thirty years longer than

they do now.

CHAPTER XV

SLEEP AND SLEEPLESSNESS BETWEEN SIXTY AND NINETY

ANY people about sixty find that they sleep an hour or two less than they used to do when they were younger, and they feel quite anxious about it, for fear they will have insomnia. There is an interesting point to decide what is insomnia?

In general terms insomnia is the inability to sleep sufficiently long or soundly to rest and refresh the nervous system. The muscular system of course can be equally well rested by lying down for so many hours, but the brain, in order to get any good of it, must be inactive and unconscious.

In general terms, sleep is the reward for a long

day of strenuous muscular exertion.

The writer does not agree with people who frequently say they are too tired to sleep. On the contrary, it is more likely that they were not tired enough to sleep—that is to say, not tired enough physically. One may be exhausted with mental exercise in the form of financial or other difficulties,

which have been thought over during a long time, but that will not give sleep. Such people will often stay awake nearly the whole night. In order to get sleep the brain must become empty of blood, and that is probably why a very active life requiring a great deal of muscular exertion is one of the best remedies for want of sleep, because the moment such a person goes to bed nearly every drop of blood in their body rushes to the tired muscles of their limbs, and begins to renew the exhausted tissues—thus leaving the brain empty and quiescent, because it is quite evident the brain stops working whenever it has no blood to nourish it.

On the same principle, many people who cannot go to sleep will get up and have a glass of hot milk, or some other little supper, which requires a rush of blood to the stomach to make the gastric juice, and the rush of blood to the stomach draws away so much blood from the brain.

There is no doubt about it, eating before going to bed produces sleep, or at least a sleepiness. Another manner in which the same principle may be used to give the brain rest, is the taking of a hot bath a quarter of an hour or twenty minutes before the usual time set apart for sleeping. The reason is simply because the heat of a hot bath dilates all the small arteries or blood vessels in the skin, many thousands in number, and the rush of blood to the skin from all parts of the body leaves

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the brain short of blood—the result being that the person will become very sleepy and even fall asleep in a hot bath.

If any further proof were required to show that the more blood there is to the brain the less chance there is of sleeping that night, is shown by another demonstration, namely, by putting wet cloths or wet sponges or an ice cap on the head, when the blood vessels of the brain will contract and squeeze the surplus blood out to other parts of the body, and then sleep will gently come. But elderly people certainly do not require so much sleep, as we have already said. I have known some of them to go to bed at twelve o'clock every night and wake up smart and bright at six next morning, and begin work—even in doing the best work of the day between six and eight.

Some of the best books on medicine have been written this way, by busy men who could not have spared a single hour any time during the day, from the time they rose in the morning until they went to bed at night, but wrote their books easily

by getting up in the morning.

I visited one of the great doctors of New York, and spent a few days with him—a man who had written several thousand-paged quarto books—and seeing his office full of people from half-past eight in the morning all day until late at night, I asked him when he found time to write such a large

book, and he said the only way he could have done it was to write it in the morning before any patients came and whilst the house was quiet. He came down to his library every morning at six o'clock for many years.

The writer himself has written many articles when editor of a medical journal, and not only written those articles but corrected the proofs of them, and many others, besides attending to much of his private correspondence, and all between the

hours of six and eight in the morning.

It has been maintained by some that sleeping more than one requires at each age brings great misery on the person. They seem to sleep their brains away, as they say, but if they got up earlier and did some work for themselves or their families before starting on their journey to the office or factory or mine, they would be far less tired than they are now—getting up late and having to hurry in order to get there in time.

While we are on the subject, let us look on a few of the means to be taken to cure insomnia—that is to say such severe cases as to keep the person awake all night.

You sometimes hear of people saying that they have not slept a wink the whole night, and sometimes it is quite true, although in other cases the people have had several hours sleep without knowing it.

Putting one's feet in hot water, or taking a hot bath, at the same time putting an ice cap on the head—these are three well-known ways of securing a little more sleep.

Eating a light meal at half-past nine or ten also has, but not so much, the same effect; whilst of course eating between meals is not good for anyone, and the result is often a tired feeling the next morning, as well as a bad taste in the mouth, and no appetite for breakfast.

Which position, recumbent or sitting is the most conducive to sleep? It may be noticed that many people can go to sleep sitting upright in their chair. This applies especially to brain workers, and the reason is that in this position it is easier for the blood to leave the brain.

A Scottish minister of the writer's acquaintance had himself so well trained to this method of getting a few minutes' sleep that when sleep overcame him when he was writing his sermons in his study on the fourth story of the house, he laid down his pen in the middle of a sentence and then went downstairs and sat upright for five minutes in a straight-backed chair. During these five minutes he was sound asleep, but he was so refreshed after it that when he went upstairs he found himself very wide awake and quite ready to go on with his sermon at the very sentence at which he had left off. Another instance of the wonderful restorative action of even

a very short sleep was that of one of the writer's Professors, who was Superintendent of a large hospital. The work was divided among three or four departments and after lunch the writer, with two other House Surgeons, has frequently been receiving the orders for the afternoon when the Superintendent was noticed to have fallen asleep. He was left to have his sleep, but in exactly forty seconds he was wide awake again and continued exactly where he left off. Without that one minute's sleep and rest he was very tired for his work in the evening.

Lord Knutsford has told the writer of a gentleman who could have a short but refreshing sleep while on horseback.

It is not often that we have an opportunity of seeing what takes place in the brain when a person falls asleep, because the brain is so carefully packed away out of sight in its protective bony case. But occasionally an accident occurs which removes a part of the skull without killing the person, and there is a full record of such a case in the books of a hospital in which the writer was a house surgeon for two years.

Four men were working at a windlass, slowly winding a chain at the other end of which a giant log of timber was attached, which they were hoisting out of the water and pulling into the porthole or door in the bow of a ship. When a little

over half of its length had entered it began to rush down into the hold, and the foreman gave a cry for all hands to stand aside so as to keep clear of the rapidly revolving handles which were made of iron. All got clear, except one of the inside men of one of the handles, and he received a slicing blow from it which took off one of his parietal bones without greatly damaging the brain. When he went to sleep it was noticed that the brain became markedly pale, and when he was awakened a pink wave or blush came over it. As he was in the hospital over a month, this was observed many times before he went away on his ship with a neatly fitting silver plate securely fastened on his head which fully protected the brain from injury. We have just said that sleep is the reward for physical exertion, and unless the man from sixty to ninety gets as much physical exercise as the man of thirty he cannot reasonably expect as many hours of sleep. Nor is there any need to worry on that account. How much physical exertion do you get? Many of the men and women who have consulted me for this distressing trouble were getting little or no physical exertion at all. Sleep comes automatically when muscular exercise has burned up so many ounces of fuel. The blood becomes saturated with more waste material than the lungs and kidneys can get rid of. Then the nervous system automatically becomes overpowered and we fall

asleep for the sole and only purpose of stopping combustion until the waste products have had time to be eliminated. As soon as this is done we wake up. Now show me a little boy who is running about incessantly from daylight to dark, and I will promise you that he has no insomnia; on the contrary he sleeps for ten hours without a break. And then show me a rich merchant who passes his whole day from 9 a.m. till 9 p.m. in a luxurious chair or seat either in his motor-car or in the railway carriage, or at his club, or in his own home, or at the theatre, day after day, and year after year, and I will show you a man who must be very thankful if he gets five or six hours' sleep a night.

A few thousand rich merchants or professional men by the advice of their doctor spend so many hours a week walking over hill and down dale on the golf course, and then they will get so many hours more sleep in proportion to the number of miles they walk. Others who are not rich may obtain the same boon at no expense by starting from their home an hour earlier and walking so many hours

a day to and from their business.

Others again earn eight or nine hours' sleep by the nature of their occupation and obeying the law six days shalt thou labour and do all thy work. Mr. Gladstone, by the advice of his doctor, the late Sir Andrew Clark, by muscular exertion expended

in chopping down so many trees a week on his estate at Hawarden, obtained more sleep than the average for his age.

A maiden lady who suffered from cold feet, which prevented her from getting to sleep, told me that she had found a remedy in swinging a pair of Indian clubs for ten minutes every night in her bedroom. A great many people die from heart failure during the night. But the exercised heart is not the one which stops soonest. Fat on the heart is one of the greatest enemies of long life. How to avoid this has been shown on various pages throughout this book. Many doctors of middle age who should have been sleeping seven or eight hours every night, have consulted me for the following state of affairs: They were very tired at ten o'clock, but managed to keep awake until eleven, when they put the light out and immediately fell asleep. Then at one or two o'clock, after having had only two or three hours' sleep, they awake, and in spite of every endeavour they remained awake until seven or eight, when, worn out and sleepy, they had to get up and face a big day's work. They all were of the opinion that it was due to overwork and that it was the beginning of a nervous breakdown which could only be avoided by a long holiday. The remedy in some cases would have been worse than the disease for it would have meant financial ruin. But fortunately the difficulty was solved in a

very simple manner. I inquired whether they smoked or not and, if so, whether they smoked a great deal at night? In every case the reply was in the affirmative. What happened was this. During their very busy and active day a large amount of waste material accumulated in the blood; more, in fact, than their eliminating organs could keep pace with. According to plan Nature made them sleepy so as to stop the production of waste material and allow the liver and kidneys and skin to catch up with their work. Then the tobacco came along, and by smoking half a dozen pipes or innumerable cigarettes the heart was lashed into a fury and the brain was getting the lion's share because it is supplied by the first large branches coming off the great arterial trunk. The first branches, of course, being the two small coronary arteries feeding the heart itself. So that at the very moment that the brain should have been almost empty of blood it began to receive a double supply. The cure in every case was simple if not easy. The cause being removed the effect disappeared.

They stopped smoking absolutely after 7 p.m., and quite a few of them, on seeing how much better they were, gave tobacco up altogether and have never smoked since. I cannot but admire

their resolution in the face of temptation.

Having been a professor for thirty years it was my duty to attend the monthly meetings of the

Medical Faculty which were usually held in a consulting-room. Nine or ten times a year fourteen of us sat in that room from eight-thirty to twelve-thirty in an atmosphere saturated with nicotine. On other nights I slept from ten to six, eight hours; but on those nights I could not sleep until four or five in the morning, and then woke up at six as has been my habit for fifty years. It is my firm conviction that the breakdowns in health so common among professional men are often, though not always, due to the enormous amount of nicotine which they inhale not only of their own manufacture, but in addition what their friends produce.

If by ill-luck these doctors and others consult some great doctor who himself is going to die at fifty or sixty from the indirect results of

excessive smoking he will not even mention the word tobacco, because being a vital necessity to his own existence he could not very well tell others

to give it up. As is well known many doctors become addicted to drugs and lead a miserable existence until they die long before their time.

During their short life they are neither useful nor happy. And most, if not all of them, began taking

drugs because they could not sleep. Over and over again we have thought that at last we had

found a drug which would produce sleep without doing any harm, but after a few years' trial they

have all been found to work greater or less havoc with the heart or nervous system.

One morning in a certain city, where the nervous system reaches its highest development and which is affectionately called the "Hub" by its inhabitants, because they consider it the intellectual hub of the universe, I had occasion to go into a chemist's shop when I found several women ahead of me. Each in turn came to the counter when the polite chemist said, "Good morning, Mrs. So-and so," and without inquiring what he could do for her he measured out an ounce of clear solution into a tumbler and filled the glass at the soda fountain with which every chemist's shop there is provided. She swallowed it down, placed fivepence on the counter and departed without further parley. When I had been served I inquired what malady was epidemic that required so many doses from the same bottle. He said those women could not begin their day's duties until they had taken their bromide to quiet their nerves.

The bromides, even the sodium, have the one drawback of keeping the blood out of the brain not only during the night, but next day also when the person needs it in order to remember their name or the number of their house or telephone.

We cannot too strongly utter a word of warning against prescribing any form of morphine or opium for the purpose of obtaining sleep only. The doctor

who gives such a prescription does so with the best of intentions, meaning it for that one emergency only. But the asylums or sanitoriums have many patients whose life has been ruined by such a prescription which began their sad career as an The writer has attended several such women and rescued them only with the greatest possible difficulty and only with the help of the patient and nurses. There is nothing more pitiful than the struggle of such a person against the tyrant which has enslaved them. If it is really ever necessary to obtain sleep from morphine it should be given by the doctor himself by the hypodermic method. The same thing applies, only in a much lesser degree to sulphonal, veronal, paraldehyde and a host of other narcotics. It is easy to begin them, but most difficult to leave them off. The daily papers contain many deaths from this cause in the course of a year.

When a patient consults us for insomnia we should feel that we have one of the most important of cases to work out. Sometimes when such a patient tells us his woes and we say well now let us look for the cause, he or she will tell us not to bother about the cause, but what they want is to cure the effect. To such a patient we might say as to many others, "Supposing that you were to come to us with a long splinter of wood which had pierced your leg for several inches and was still protruding a half or

a whole inch, which would you expect us to do, to rub some liniment on the sore place and to give you some medicine to dull the nerves so that they may not tell you of the dangerous invader, or in other words, to relieve your pain, or would you expect us to remove the splinter and disinfect the wound and so put an end to the whole trouble?"

It is the same way in the case of insomnia which is due to some definite cause. Is it not more reasonable and wise to find that cause and remove it than to leave the cause operative and to palliate the uncomfortable or dangerous effects? In the one case, the malady is cured there and then, once and for all. In the other there is only a temporary respite and the treatment must continue always growing less effective until death ends the scene.

Whether the reader of these lines is a doctor or patient he or she cannot be too strongly impressed with the importance of at once consulting the wisest doctor he knows who will not take long to put his finger on the mistake which is the cause of the trouble. Next to opium and morphine the most dangerous remedy for insomnia, because it is so frequently resorted to, is alcohol. More than once when called to a case of insomnia ten to twenty empty brandy bottles have been found in drawers and cupboards which at once explained why the patient could not sleep.

Alcohol fills the brain with blood by dilating the

vessels and exciting the action of the heart, and it is only by taking a double or treble dose that it stuns and anæsthetizes the brain. But the quantity necessary to anæsthetize has to be constantly increased until the quantity in the blood at one time is so great that every organ in the body is injured. Many thousand cases every year have died from alcoholic injury to the liver and brain and heart and kidneys which had its beginning with a supposedly harmless drink or two at night which had to be repeated four hours later when the stupefying effect had passed off, and the still excited heart was continuing to pump an unnecessary supply of blood into the paralysed blood vessels.

Besides alcohol and tobacco there are some other things which will cut down the hours of sleep. Some years ago I was surprised to read in a medical journal an article by a young doctor who claimed that he had discovered a plan to greatly increase the length of his working day. It was nothing more or less than to take a cup of strong coffee every four hours by which means he said he could keep on working until 4 a.m. every morning when he went to bed and slept till eight. I don't know what became of him, but I hope that there were very few who followed his example.

But his article served a useful purpose different from what he intended, for ever since I have taken pains to ask every patient with insomnia, do you

drink coffee and if so, when? If they tell me that they take it at ten or eleven o'clock at night I tell

them that it is the wrong time.

I am aware that it is the custom even after medical discussions, carried on long after the time that the doctor should be at home at least if not in bed, it is the custom to have a few biscuits or cakes and some good strong coffee, generally of the best and very well made. It is also customary when a few friends have been in to spend the evening to offer them some good strong coffee before they go home and a few minutes before they hope to be in bed and sound asleep. Some of them sometimes have great difficulty in remaining awake at the medical lecture or the social gathering, which would not have been the case if they had the coffee before the meeting or gathering began. The only exception to the rule, in which the guests received the coffee as they entered the room, was also the liveliest and most enjoyable within my recollection. It was a cold night, something like fifty degrees of frost, and after divesting ourselves of our wraps we were received by our hostess and at once offered a large cup of hot, strong coffee The effect was magical. Within five minutes the hearts of all the company were beating an extra ten to twenty beats a minute and their corresponding brains were filling up with fresh hot blood. In ten minutes the average pulse was ninety and the wit began to flow. And then the

laughter began and continued steadily until ten, when supper was announced. There was no need of either alcohol or coffee at this stage of the proceedings, the coffee at eight-thirty was still effective. It was not till eleven-thirty this stimulant began to lose its effect, and after singing "Auld lang syne" the company broke up and they were all at home by twelve, voting it the most delightful evening

they had ever enjoyed.

But for anyone troubled with loss of sleep neither tea nor coffee should be taken later than one o'clock, after the midday meal. Fortunately there is cocoa, a pleasant substitute if one must eat and drink between midday and evening meals. But in many countries the afternoon tea is unknown except to a few of the wealthier people who have perhaps learned the habit during their stay in England. Many millions of people never take anything but one or two glasses of water. But then in those countries the mass of the people have dinner at twelve o'clock and as part of their meal they have one or two cups of Japan tea, or, as they call it, green tea. This is much stronger than either black or China tea and they draw it longer so that they do not feel the same need for four or five o'clock tea that the mass of people in England do.

So much is it the custom to take tea at the one o'clock or twelve o'clock dinner that at an hotel at which the writer once stopped in a pretty country

town he was astonished at the waitress saying, "Tea, beer or water, Sir?" explaining that they were all equally free. Only next day when I paid my modest bill of four and twopence for three bountiful meals and a comfortable room did I learn the secret that the proprietor not only owned the brewery, but he grew his own barley and made his own malt, and he produced nearly everything on the hotel table on his own farm. There was no middleman. The time for coffee is in the morning and it is the breakfast beverage all over North and South America and Europe, with the single exception of the British Isles, and even here it is gradually taking the place of tea at breakfast.

Some people can take a cup of tea at ten o'clock at night and go to bed and sleep for eight hours. But they are the exception. The great majority of people can take a moderate amount of tea at four o'clock without interfering with their sleep. But in the case of elderly people who are not sleeping well we should at least inquire whether they are taking it strong later than one o'clock. But there are other factors in preventing sleep. Next to alcohol and tobacco and coffee and tea comes brain work continued right up to the hour when sleep should begin. Although many great brain workers have worked late at night they have not, as a rule, lived to be old. You cannot read an exciting murder story up to eleven and expect to drop into

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a quiet and restful sleep five minutes later. Neither can you carry on an angry discussion. The plan which most of the elderly brain workers have followed was to go to their room at ten and be ready for bed half an hour later. Then to read some soothing and unexciting book, such as the Testament or a hymn book or the Review of Reviews or Punch. By ten to eleven the blood is leaving the brain to begin its nightly task of repairing the wear and tear of the muscles of the day and of removing the debris. By five minutes to eleven you cannot see the page very plainly and as the clock strikes eleven you put the light out and almost instantly you are unconscious. But now the subconscious self comes into play and you will probably dream. Whatever was in your mind latest will be the easiest and most likely thing to dream about. If there was no vivid impression in your mind when you fell asleep you may have no dream at all unless you have taken alcohol, in which case the reproductive efforts of the brain are greatly augmented and you will bring forth some vivid impression of long ago. If instead of increasing the poison in the blood you take half a pint of eau sucrée or hot weak tea or, better still, plain, cold water, you will be much less likely to have an unpleasant dream because it will immediately begin to wash the poisons from your blood, and a heart free from poison quiets down much more quickly, as we saw when speaking of

alcohol and tobacco and coffee. These are all poisons for the healthy heart and lash it into a fury. But the ordinary products of vital processes are also poisons, such as urea and uric acid, and they may also prevent the heart from quieting down and so

prevent sleep.

Perhaps reading this book would be as good a way as any to make you sleepy, but before you fall asleep let me say a few words about your bed. How many young men of twenty-one sleep on an uncomfortable bed for most of their life while they are spending ten times the cost of a good bed on non-essentials. According to the chances of lifetables, a young man of twenty-one has just fiftyfour years to live. Of these fifty-four years he will spend at least one third in bed, which is just eighteen years, during which his bed will be his home. Now if one were to tell the same man that he had to go to bed and remain there for eighteen years, he would say at once, if that is so I had better get the most comfortable bed I can find. Most people are aware of what I have just said, but there are many others who do not learn it until they have spent half their allotted time under very uncomfortable conditions.

Elderly people who awake at 2 or 4 a.m. and cannot get to sleep again should have a glass of milk and a few digestive biscuits at the side of their bed. By munching a few biscuits with small sips of milk between they will generally go to sleep

quickly again and sleep another four hours. Many whom I have advised to follow this plan have reported to me that it proved very effective. A mistake which many elderly people make is the very old one of thinking they can eat their cake and have it too. They cannot do this; neither can they have their sleep during the day and then have a good night's rest while others are sleeping. We should do all we can to keep people from sixty to ninety from sitting in an easy chair all day. If they take no exercise and produce no waste products all day there is no reason why they should have any sleep at night. The chances are, moreover, that continuing to eat without working he or she will become fatter and fatter and weaker and weaker, and so become bedridden and helpless.

If the elderly man follows the advice in the early part of this book and leads a busy, active life at eighty or ninety, as did the late Lord Strathcona, the case is very different; although even he, after working very hard all day in London, took his rest by travelling back and forth by the night train to Scotland.

An old friend of mine has just died at the age of eighty-four, who was a prominent figure in the business world for the last fifty years. Among many other positions he was president of a well-known life insurance company and, moreover, being wealthy he was able to avail himself of the very best advice in Harley Street, and this was that he would un-

dress and go to bed at six o'clock and sleep soundly, which he did until called by his valet at seven. He then leisurely dressed for dinner, to which he sat down as the clock struck 7.30. He ate very sparingly himself, had one glass of wine, and rose from the table at eight. He played Bridge with his guests until ten minutes to ten when he asked them if they would like him to call a cab for them. By ten exactly he was on his way to his bedroom. I feel sure that his sixty to eighty-four very useful and happy life was due largely to the absolute punctuality with which he lived it. If his guests missed their train or lost their way or mistook the house he was very sorry, but that he should wait dinner for them was unthinkable, and he was perfectly right. Digesting a dinner is not the haphazard affair that many people think it. Nature makes the most elaborate preparations for her work to be ready for a certain minute. The cook is very angry if you keep the dinner late because the dinner will be ruined. But you can get rid of her if she does not like it. But you cannot get rid of your stomach when you have spoiled it. One of my assistants, a very able and successful practitioner, lost his life from losing his stomach rather than lose a few patients. had a very large practice in an industrial district and every day when he came home to dinner at one o'clock he found one or two people waiting to fetch him right off to see someone who had been

ill for several weeks, but had delayed calling the doctor. He asked them if they would kindly wait until he had swallowed some food, but they said they could not wait, but would get another doctor if he could not come at once. His dinner was put away for him, but when he returned there were twenty or thirty angry people who had been waiting an hour or more and wanted to get away, so he had a cup of strong tea to buck him up and went on till four o'clock, when urgent calls had come in which had to be attended to; and besides his appetite juice, and gastric juice, and bile, which had been all ready at one, were gone and he was no longer hungry. When he got back at 6.30 three other men were waiting for him to come at once and the same thing happened again. More strong tea but no food, his first meal since a light and hurried breakfast being his warmed-up dinner at ten o'clock which he should have eaten at one.

I remonstrated with him several times and did my best to save him. He was making the income of a Prime Minister and could not bear to give it up. And so, in due course, and with a sad heart I went to his funeral because he was my friend.

The last time I went to remonstrate with him and he mentioned how much he was earning I told him to kneel down and pray that he might earn several thousands less.

Tea is a splendid beverage on account of the

almost pure hot water which goes in with it and if not taken too strong is the safest of all stimulants. But when it is used in the place of food and to prevent the natural desire for sleep, or to spur one on to exertions, mental or physical, which are beyond one's strength, tea becomes a possible source of danger. Besides the doctor above-mentioned I know of another quite celebrated doctor who died from drinking tea many times a day.

I have seen many causes of severe dyspepsia from it, leading to gastralgia and neuralgia of the stomach. This occurs especially in hard-working women who do not eat enough to keep up their

strength, but drink tea instead.

As Sir Herman Weber says: We have repeatedly observed that under the influence of tea not only physical but also perhaps more frequently mental exertion was persisted in for weeks and months, until it lead to exhaustion of the nervous system, which sometimes lasted through life. Working for scholarships, for instance, and for competitive examinations, has in this way caused some sad failures in life.

An interesting case of illness due to tea came under the care of the late Sir Andrew Clark. It was that of the Prime Minister of one of the great oversea dominions who came over especially to consult this really great physician. After hearing his symptoms the first question he asked was,

"Do you drink much tea?" He replied that he did several times a day. Then he asked if at any of those times the tea was brewed a long time before he drank it. The Premier's answer to this solved the problem. He tried to get home to tea every afternoon at five when it was always waiting for him on the trivet or hearth. But nine times out of ten it was impossible to get away from deputations and other unavoidable business and so the tea remained still brewing until six. After a careful examination everything was found in order and Sir Andrew enjoined him to drink three-minute tea. He said no medicine was necessary. The Prime Minister returned and obeyed this instruction and regained his health, and through his high position the fact that tea should be brewed for three minutes only became generally known throughout the world.

Once when I was visiting a hard-working laundress I noticed the largest teapot I had ever seen simmering on the stove. The pressure of the steam, as I thought, was so strong that it lifted the lid up. I pointed out to the poor woman that that was how the steam engine was discovered by Watt, who said if the steam would lift up the cover of a tea kettle if would lift anything. To which she replied, "Sure, it's not the steam at all, it's the tea leaves." And sure enough on looking into the pot which held about half a gallon it was so full of leaves that the

lid could not go down. She said she began putting tea in at five every morning and kept adding a small

handful every hour or two all day long.

In spite of the few cases where its abuse in quantity or improper brewing leads to injury, we can sum up our judgment in its favour by saying that for the four hundred millions in China the three hundred millions in India and the two hundred millions in the United States and the British Isles and Overseas Dominions, tea is one of the greatest

blessings we possess.

There are a few other causes of insomnia. One I will only say a few words about, and that is waking up in the middle of the night with a tremendous palpitation of the heart and the feeling of a hot poker or very hot liquid in the gullet or æsophagus. This is due to some error of diet, quite apart from the other causes which I have mentioned which cause that distressing condition known as heartburn. This is either due to an excessive flow of hydrochloric acid known as hyperchloridia, or perhaps more often to an acid fermentation of sugar into vinegar or acetic acid or to lactic acid. Many such cases have consulted me, and I have found that the quickest and simplest way to get instant relief is to keep a bottle of Vichy water at the head of your bed and drink one or two tumblers of it at intervals of five minutes if the first one does not give instant relief. Until it is relieved sleep is out of

the question. The prevention of the trouble is quite a difficult matter in some cases. Whether the reader of this is a doctor or a layman he should lose no time in consulting a good stomach specialist, as it is a symptom of several important diseases which should be taken in time.

Another cause of insomnia is over-heating or over-cooling of the bedroom. One sleeps best, as a rule, in a fairly warm but well-aired room. During the hot nights of summer, one does not sleep well, and during the cold nights of winter we must as a rule keep warm by some other means than by closing all the inlets of air.

I recently discussed this point with a world-famous surgeon who claimed that he slept much better in a room where there was a deficiency of fresh air, and in support of this view he pointed to the hibernation of animals. They crawl into a hole in the ground or into the hollow trunk of a tree on the approach of winter and, putting their head under their paw, sleep soundly for three or four months. This they do, of course, in order to economize the store of fat they have saved up during the summer abundance of food. He also pointed to the considerable number of people who fall asleep in church at both morning and evening services, which is chiefly due to the insufficient supply of oxygen, although the minister is often unjustly blamed for it.

Although it is quite true that bad air makes one drowsy and that if it contains enough carbonic acid gas it will put us so soundly asleep that we will never wake up, yet it must be admitted that such a sleep as is produced by bad air is not so refreshing as the same amount of sleep in the open. With the door locked and the window open we will get a sufficient supply of oxygen without any danger of that bugaboo, draughts. And here let me say a few words about these much-abused currents of air. Nobody ever got any harm from fresh air, but sometimes they do from the manner in which they are exposed to it. Sir H. Webber puts the matter very clearly when he says: "If we sit near a small chink in the windows instead of by the widely opened windows, or by imperfectly closed doors, or by sitting between the door and the fireplace, or window and fireplace, or by driving in closed carriages with the window of one side partly open, instead of driving in an entirely open carriage or in an open bath chair, admitting the air through a small opening causes draught, but by allowing the air to enter through fully open windows or doors the body becomes soon accustomed to it, is strengthened and gains in resisting powers." And yet, during a great congress of scientists from all parts of the world, when the writer was on the Committee for the Comfort of the Visitors and had taken every precaution to supply good fresh air,

he received a message from the President to please close all the windows as he was afraid there were some draughts. It was a sweltering day in July and the meetings were held in a great hall of the University which had been especially built with a view to getting cross-ventilation in summer, so the six hundred visitors might have been very comfortable as there was a gentle westerly breeze blowing across the hall through the widely opened windows.

Everybody seemed very comfortable, only a few fanning themselves to get a little more air, but the order of the distinguished scientist who presided had to be obeyed, although reluctantly. Strangely enough, one of the papers read in the stifling heat which followed was by the writer of this book on "The Artificial Ventilation of Ocean Steamers," which led to the present plan of millions of cubic feet of fresh air being forced into every part of the ship by powerful fans, even to the third and fourth stories below decks, where, of course, all the portholes are closed. This has enormously added to the comfort of ocean travellers who used to suffer from nausea and vomiting due to breathing foul air, but which was wrongly attributed to sea sickness in many cases. Before the adoption of the writer's plan, thousands of cattle died every year owing to heat and suffocation, but after the compulsory adoption of this plan of artificial ventilation on

cattle ships not a single death occurred, so that it at once became a commercial proposition.

I have already mentioned cold feet as a cause of insomnia. At one time of my career I was doing a great deal of literary work in addition to lectures and operations and sitting for long hours in my consulting-room, so that at last my feet became like ice and the blood refused to leave my head, and therefore I could not get to sleep for hours. I mentioned this to an old Scotch lady whom I was attending and very soon after I received a pair of those loose, fleecy night socks of which I had never heard before, although I afterwards learned they were well known in Scotland. They were worth their weight in gold, for in five or ten minutes' time a glow came all over my feet and almost immediately I fell asleep. A year or two later I was crossing the Atlantic on the Baltic of the White Star Line, and found that I had forgotten my night socks. The Company, however, had thoughtfully provided for my difficulty by putting in three enormous electric light bulbs at the foot of my berth, which could be turned on from the head of the bed. No matter how cold my feet were, I only had to turn on the heat when in five minutes they were all in a glow and I was soon asleep. When I returned home the nights were very cold, and I bethought me of my experience with the electric light warmers, so I brought the electric reading lamp into bed with

me and made a little tent that was so nice and warm that I soon fell asleep with nearly fatal consequences. For in a moment I was dreaming that I had been chosen by the Government to lead an expedition to Central Africa. There were three young officers to assist me and a hundred negro bearers with large bales of supplies on their heads for ourselves and presents for the native princes to whom I was being sent to negotiate a treaty of great importance. As we marched so many miles each day nearer to the equator the heat became stifling and the bearers began dropping dead at every hundred yards or so along the route. Although the water was pouring down my face I resisted all the efforts of the young officers to induce me to abandon this mission. It was only after all three of them had died from the heat and more than half the negro carriers were dead that I sank to the ground exhausted to die like the others in the African wilderness. And then I awoke to find it all so nearly true that my night clothing was already scorched and ready to burst into flames. Ever since that narrow escape I have been contented with an aluminium hot-water bottle covered with a blanket cover, which will not only keep one warm all night but also provide you with hot water for shaving in the morning. One of the best known members of the House of Lords, after reading this book, has suggested to me to use a flannel sleeping bag coming above

the knees which has some advantage over night socks.

There are many other things one might say about sleep and the loss of it, but I will close by quoting a few lines from Sir Herman Weber, who, in spite of being a poor sleeper for many years, was an active worker and very happy from sixty to ninety. "There are some hard brain workers who never sleep more than five hours and even less, and enjoy good health with this small amount up to old age if they live otherwise correctly. There are many persons who worry themselves if they sleep less than seven hours and if they wake several times during the night. They mostly do themselves more harm by worrying about the supposed too short hours of sleep than by the small amount of sleep they get; and if they can be persuaded that they are not injured by the shorter hours, that rest in bed by itself leads to restoration of the body, they mostly begin to sleep better. I have been a bad sleeper," he says, "from an early period of my life, but especially after the age of twenty-eight, when for thirty years I rarely was in bed for more than six hours, and awoke almost every night twenty times and mostly oftener. At first the idea that this must weaken my working powers worried me and lengthened the waking intervals between the spells of sleep; but when I gradually found that my health did not suffer and that I could do my work in spite

of imperfect sleep, the waking intervals became shorter and now I am ninety-one and in good health." John Wesley, the founder of Methodism, it is stated, rose for over sixty years every morning at four o'clock and never slept more than six hours. Many well-known mental workers have risen between five and six every morning for fifty years or more, even if occasionally they had to remain up till midnight once or twice a week, and who lived and retained their working powers in spite of those short hours of sleep to the age of seventy-five and eighty-five and even longer. Several well-known judges when on duty rise at 4 or 5 a.m. and prepare themselves for their work, and some of them are still alive at ninety.

What about the large class of professional men whose duties compel them to remain up late at night, such as doctors? I can give my own experience on that point. First of all, at the very outset of my professional career, I taught my patients that it was to their interest, indeed in many cases it was a question of life and death to them, to send for me at the beginning of their illness instead of waiting till the middle of the second, third, or fourth night. I explained to them that I could not give them of my best that night because my brain was not in a fit condition to do so, but that I would come back in a few hours when I would be in a little better condition. But I also explained that even

then I could not do so well, as if I had been called the morning before, when I passed their door and could so easily have come in. And that any doctor's work suffers all the next day for all his patients through the thoughtlessness of one patient causing him to lose his night's rest unnecessarily. This gradually became known among my patients, and while I always went immediately when called, and gave some temporary relief, it gradually happened less and less often until my night calls fell to one a month and my day visits increased very much more. In cases which could not be foreseen, I never referred to the hardship or resented it in any way. After being out all night to a case I found it best to go to bed for an hour and even half an hour, have my two cups of weak tea, have my bath, and keep right up with my schedule until 8 p.m., when as the last patient went out I went to bed and slept right through till six next morning, when I had completely recovered from the misfortune of the night before.

Next to doctors, I feel most sorry for society women who are compelled to keep in the limelight from 8 p.m. very often till four next morning. This requires that they remain in bed during the glorious morning hours of sunshine, which, once lost, will never be obtained again. At noon they begin again their sixteen-hour day's labour for social supremacy. I often wonder they do not form

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a Union and go on strike for a twelve-hour day and six days a week. It would add many hours to their Every true Britisher loves the House of Commons, the Mother of Parliaments. The writer has only twice been within its sacred precincts, but his impression was that he was looking upon a body of exceedingly tired men. His next impression was that owing to poor elocution and incessant interruptions, more than half of the time was wasted. The cardinal rule of making a good speech of "Stand up, speak up and shut up" were not observed. I have attended many congresses of scientific men about the same size as our beloved House of Commons and the whole field of that particular science was gone over and thoroughly thrashed out in three days from 9 a.m. to 6 p.m. Most of them were a great success, but the time allowance for each speaker was clearly laid down in the printed programme: twenty minutes for the reader of the paper and five minutes for each of the other speakers. A man who thoroughly knows his subject, as our Ministers do, could tell a lot about it in a twenty-minute written speech committed to memory if necessary. What he has left unsaid could be covered by four friendly members in five minutes each. Such a thing as an interruption is unthinkable at a scientific meeting. Why should an ignorant and persistent interrupter be tolerated while the welfare of the Empire is at stake?

Just a few words about sleep for the tired mother of a family, who in these days has to be cook, housemaid, nurse for her children all day and bright and cheerful companion for her husband when he comes home from his long and sedentary occupation of sitting in a well-cushioned chair all day. What he wants is an outing, such as a threeor four-mile walk. What his wife wants is to crawl off to bed and get to sleep, for she has not sat down perhaps for four minutes all day. What is to be done about it? I think I have discovered a solution. As soon as the children have gone to school at a quarter to two the house will be quiet until a quarter past four. While I had a large practice in a pleasant suburb, I told many hundreds of worn-out women to put a card on the front door " Not to be disturbed till 4," and then to be undressed and in bed at two. As a rule they fell asleep almost instantly and were awakened by the children knocking on their return from school at 4.15. When the husbands returned at 6.30 or 7 p.m. they found their wives bright and cheerful and ready for a run, instead of being dull and apathetic.

CHAPTER XVI

HOW TO PRESERVE THE SIGHT FROM SIXTY TO NINETY

HERE have been many arguments during the last few years as to whether it is better to lose one's sight than one's hearing. Sir Arthur Pearson, who carries on a great business, though blind, maintains that blindness does not shut one out from contact with one's fellows nearly so much as being deaf. However that may be, every one should leave nothing undone to preserve this precious blessing of being able to see until ninety or a hundred years of age.

The writer believes that a great deal of blindness that comes on between sixty and ninety is

preventable.

Over and over again he has been called to see people who have been in bed weeks and even months, and whose bed was facing the window. And as nearly every one of the people wanted to read papers and even books while they were laid up, they read under the greatest possible amount of eye strain. That is to say, the light was pouring

on to their sensitive retina instead of the printed page which was almost in darkness. This necessitated their holding their book or paper within six or eight inches from their eyes which of course means spasm of the muscles of accommodation.

Thousands of people have gone to bed with a trifling ailment, but have recovered from that ailment after a few weeks in bed only to have

a much worse one-ruined eyes.

If prevention is better than cure, why not turn their heads during the day, at least, near the window so that the light will come from above and behind and fall upon the page instead of on the retina.

The other great mistake generally happens soon after forty years of age, when the crystalline lens begins to get a little harder and the ciliary muscle must squeeze it frantically to make it strong enough to form the image on the retina instead of behind it. As all the muscles of the eye are interallied through the lenticular ganglion, a little nerve exchange situated on the upper surface of the eyeball, there cannot be trouble in one branch without all branches being affected. Then follows twitching of the lids and inflammation and redness, due to the circulation being interfered with. Such a patient generally consults his friends for a few months or a year and they advise different eye washes, which are, of course, ineffective. Then he goes to an optical shop and

buys a pair of glasses, which at once relieve the trouble, and if he has nothing more than oldsightedness (presbyopia) he will be cured of his trouble for three or four years, when it will begin again and continue until he procures a stronger pair of lenses. If, however, he has a defect in the form of the eye, owing to its having become cylindrical instead of spherical, as it should be, he must have his eyes tested for astigmatism by an oculist and the proper correction made before his eyes will feel comfortable again.

Sometimes this astigmatism is so difficult to detect and its reflex effect on the whole system is so marked that many people have a nervous breakdown before the trouble has even been suspected. But at last the trouble is located and suitable glasses are prescribed and in a few days the patient is on the road to general health with his precious eyesight saved.

As the shape of the eyeball varies from hour to hour according to the amount and pressure of the blood in it, one should read when possible with the head thrown back instead of forward. Leaning over a desk with the head bent down close to the book or paper is a sure way to injure the eyes. a person cannot see without bending his head down to the desk he is myopic or shortsighted and should lose no time in getting the defect corrected with suitable glasses. Most school teachers understand

how to save the eyes of the hundreds of children entrusted to them. But I have been to schools where a third or a quarter of the children had to wear glasses because of eye strain, caused of course by sitting all day facing a bright, sunny window. It may not always be possible to arrange the seats so that the light comes over their left shoulder from behind, but when possible it should be done.

CHAPTER XVII

PERIODICAL INSPECTION OF THE HUMAN MACHINE

LIVER WENDELL HOLMES, in his beautiful poem, "The One-Horse Shay," compares the human body to a wonderful piece of machinery, which was so well made that it had no weakest part, but was all equally strong so that it kept on running until it all wore out together, and one day fell in a heap of dust in the middle of the road. This would be the ideal way for the human machine to finish up. Over and over again I have inquired what a certain person had died of after reaching a hundred years, and have been told, "Oh, he just dried up and blew away, so to speak."

There are many hundreds of thousands of people in the world who have a certain income over a thousand pounds a year, and with very few exceptions they would all like to last to a hundred. Many of them have broughams or cars and each of these has some weakest point which, if not attended to, will cause a breakdown of the whole carriage. So

as to avoid this deterioration of a valuable machine they do not hesitate for a moment to send their vehicle every year to the carriage doctor to be looked over and to have all defective points put in perfect order. Sometimes the necessary repairs are very slight; perhaps only the bolts to be tightened up; at other times in order to avoid serious damage to the wheels the tires must be taken off and tightened up.

But when it comes to the much more precious machine of his own body, involving not only the carriage, but also the horse and the driver, he never thinks of having it overhauled, but just keeps on driving it until it breaks down, and then only does he seek advice and is told that he has allowed a defect to go so long before being remedied that it will now require extensive and costly repairs which may take a good deal of time to effect.

I have often wondered that astute business men with an income of twenty to fifty thousand pounds a year do not every year about the 1st of October make an appointment with a first class doctor over sixty and have a three-guinea consultation, telling the doctor frankly what are their weak points as far as they know them, or that they have nothing the matter, but just want to be overhauled. Once or twice a year such a patient has come into my consulting-room, but it should be a daily occurrence instead of an exceptional one. In even these few

cases I have generally been able to add five or ten years to their life by telling them of some commencing danger which they could easily avoid, but which if allowed to go on would have shortened their life very considerably.

In one case the weak spot was a heart which was being converted into fat. In another it was a heart that was being paralysed by excessive tobacco. In another case it was a nervous system which was being ruined by alcohol taken at the wrong time in the wrong way and in the wrong quantity. In another case it was a jagged tooth which was ulcerating the tongue and laying the foundation for cancer of that organ. One of the most useful discoveries perhaps is the increased blood pressure which is very common in these days of hurry and worry. This dangerous condition is found out by means of an instrument called the sphygmomanometer, similar to the pressure-gauge on a locomotive.

Before giving you my own summing up, let me give you Sir Herman Weber's, which is very complete:—

1. To maintain the vigour of every organ and the resisting power of the whole body by regular daily walks, rides, respiratory and other exercises.

2. To spend daily several hours in the open air, and keep the air in the home pure and dry and moving by open windows and fireplaces and other means.

3. To practise moderation in eating and drinking and all bodily enjoyments.

4. To prevent disease and counteract the inherited

tendencies to various diseases.

5. To create, as far as possible, the habit of going to bed early and rising early and to restrict the hours of sleep, in adult life, to six or seven, and only exceptionally eight.

6. To promote a healthy condition of the skin

by daily baths and ablutions.

7. To keep the mental faculties in regular occu-

pation by appropriate work.

8. To cultivate sympathy, equanimity, contentedness, cheerfulness, and happiness, and the great power of the will towards pursuing the path of duty and controlling anger, vanity, envy, jealousy, undue ambition and all other passions.

CHAPTER XVIII

SOME AXIOMS FOR THE MAN OVER SIXTY

1. Remember the Sabbath Day. Work hard on six days; rest hard on the seventh.

2. Early to bed and early to rise makes people

healthy.

- 3. Cut down the amount of food. Three meals are better than four; but two much better than three.
- 4. Increase the amount of water. Neither a city nor a citizen can run a drainage system without a waterworks.
- 5. Two movements a day are better than one every two days; the colon bacilli in the large intestine

are the principal cause of old age.

6. If you want to keep young keep in with young people. The prattle of children makes one forget trouble better than hyoscine and is harmless; which drugs are not.

7. Honour thy father and thy mother that thy

days may be long.

8. Do not bear false witness nor even true witness against your neighbour if it is going to hurt him.

It will hurt you to speak ill of others just as much as it hurts them.

9. The devil finds some mischief still for idle

hands to do; so keep busy.

to. The heart grows stronger by use and weaker by idleness. When you see an easy chair or a sofa on a sunny morning keep off them, and go for a walk or do some useful work instead.

You can't teach an old dog new tricks. If you have been a smoker all your life, keep on smoking in moderation, and if you have been a moderate drinker, keep on drinking in moderation (if you can get it).

12. Never exceed one ounce of tobacco a week. Never drink alcohol except at meals, nor before

6 p.m., and always well diluted with water.

13. Keep your feet warm and your head cool.

- a cold bed or an icy cold room with your own heat—it is too difficult to raise the steam. It is cheaper and quicker to put a big hot-water bottle in the bed and to light the gas grate an hour before you retire.
- 15. When you reach sixty turn over a new leaf, and if you were careless of your appearance before, begin to dress well. It makes you look better and feel better, and you will be no older than what you

feel. A few warm baths a week will keep your skin

young.

16. If when you reach sixty you have a beard three feet long, cut it off gradually. By cutting off an inch a week you will keep the old age look away. In thirty-six weeks you will be near the clear, boyish skin which you have been hiding away too long. Then have a shave and look young.

17. Don't worry; carrying a lot of worries at sixty is like a ship with all sail set and the barometer falling. Take in sail and go slower; it is safer, and

you will get there in time.

18. If you have a big business, get some young horses to pull the wagon, and you sit on the seat and drive; but don't get off the wagon.

19. Do not speculate at sixty. You may lose your sleep as well as your money. Buy annuities

in good insurance companies.

as you live and can give away, while you are alive, what you do not need. You can by so doing avoid the disgrace of dying rich, and there will be no quarrelling over your remains.

21. As a great many men die between sixty and seventy from financial worry, which generally means living beyond their means, they should cut down

expenses by living the simple life.

22. Do not turn your home into a museum of fine arts and antiques. Happiness is, as a rule,

in inverse proportion to the size of your house, and the number of useless articles which it contains. See Pastor Wagner's Simple Life.

- 23. If you have not a business when you are sixty either get one or get a hobby, such as learning to play the clarionet. One of the best hobbies is to help those who are over sixty, but who are less fortunate than yourself. Help them to get another job when they are turned out by the cruel "too old at sixty" rule. Perhaps you could start an "Oversixty Club," where elderly men could spend their evenings and have warmth and light and company and perhaps rooms and meals suitable for their age and purse.
- 24. One of the inevitable misfortunes of the elderly man is loneliness. He may have been an only child and have no relations. Then the friends of his youth drop off, many before sixty, and most soon after, and he is absolutely alone. If you have time and an annuity on which you can live comfortably here is a fine hobby—start a self-supporting over-sixty club, and gather together sixty members. A lady in New York tried it and made a great success of it, and the members of her club for elderly men looked upon her as their guardian angel. It cost her nothing but her time and love, but she reaped a rich reward.
- 25. Cancer, pneumonia and influenza are the principal causes of death between sixty and ninety.

They are all three contagious. If you have them, don't give them to your friends; and if you haven't got them don't let your friends give them to you.

26. People from sixty to ninety should be excused from going to funerals; the funeral of your friend

is sometimes followed by your own.

27. Microbes are everywhere, and they are looking for people with a poor circulation. A fatty heart is a weak heart. Keep thin. They are also looking for pale people; keep rosy.

RE some localities especially favoured as regards the longevity of their inhabitants? It would seem that they are. For instance, here is a correspondent at Dawes Heath, Essex, who writes: "This morning I discovered that in the neighbourhood of Dawes Heath there are twenty people over sixty years of age, and three who have passed their ninetieth year. There are the three brothers Grigg, the eldest of whom is nearly ninety-two, and Mr. and Mrs. Richardson, both ninety, with an elder son in his seventieth year. All are youthful in spirit." Many reasons were given by the different elderly people, but one of them who is eighty-five holds that the secret of youth lies in religion. Certainly being at peace with man and God would be conducive to long life; we have shown in previous pages that anger, hatred, envy, malice and all uncharitableness are very bad for the heart and brain. Although we have not the pleasure of knowing Dawes Heath personally we should say that it was a small farming village with good spring water and a people who live mostly on vegetables and lead a simple life. They probably go to bed early and get up early, eat slowly, chew their food well, and pass most of the day in the open air. They probably have very few wants, and what few they have are easily satisfied. They evidently marry young because one couple who are only ninety have

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a boy of seventy. One of these happy people gave as a reason for long life that they never thought about money. They evidently have no financial worries. How many millions of people there are in the cities who dread the arrival of the postman because he is always bringing bills.

During the War the writer spent seven pleasant months in the town of Gosport, Hants. The undertaker there was asked, "How long do the people here live?" He replied, "Well, Sir, I have buried three people this week over ninety."

If we look at the register of deaths per thousand of the population as given in Whitaker's Almanack for 1921, we find quite a few towns with a death-rate under ten per thousand and only very few with a death-rate over twenty. That is to say, that for every thousand people, including new-born babes and elderly people over ninety, if there were a roll call every first of January there would only be ten missing in Acton, Middlesex; seven missing in Bridport, Dorset; ten in Chelmsford, Essex; ten in Coventry, Warwick; ten in Dunstable, Beds; ten in Ealing, Middlesex; less than ten in East Ham; nine in Edmonton, Middlesex; ten in Godalming, Surrey; ten in Hornsey, Middlesex; less than ten in Ilford, Essex; ten in Luton, Beds; ten in Mansfield, Notts; ten in Okehampton, Devon; ten in Queensborough, Kent; eight and a half in Rye, Sussex; seven in Salisbury, Wiltshire; nine and a half in Saltash, Cornwall; eight in Tottenham, Middlesex; ten at Walthamstow; six and a half at Willesden; ten at Wimbledon.

One of the sorrows of elderly people which, of course, prevents their being happy, is the ingratitude and unkind treatment which they receive from their children in many cases.

I have often been grieved and shocked when a mother, who has raised a large family, has told me that her children treated her like a servant, instead of as the queen of her home, as she should be treated.

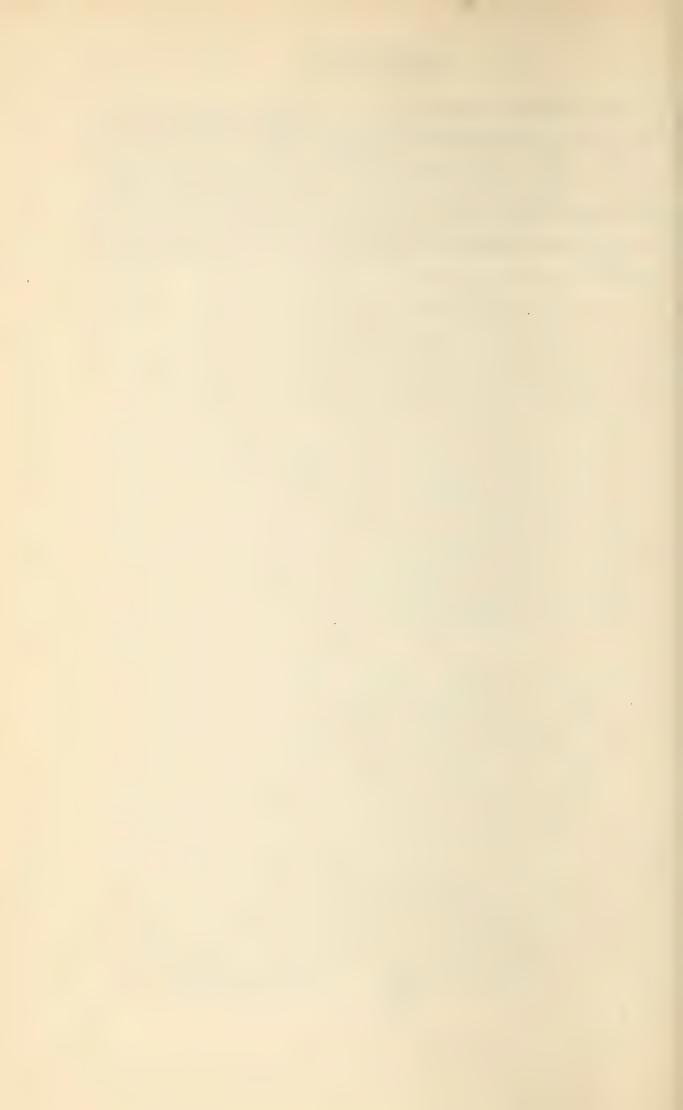
Sometimes the father of a family is to blame for not insisting upon his wife being treated with every deference and respect; but very often it is the mother herself who allows her child to tyrannize over her and order her about as though she were their slave. One woman told me that she had not sat down at her own dining-table for a great many years, as she was kept so busy waiting on her large family for whom she had been preparing dinner all the morning. When they all came in at a few minutes after twelve o'clock, she was so busy getting the dinner on the table and serving the children, that it was not worth while sitting down herself. One would come in from her work and tell her mother to get a handkerchief for her; another would tell her to get a glass of water, and so on, and the poor mother was kept running hither and thither, and never able to sit down at the table. In this case she was herself to blame for having brought the children up in this way. It would have been just as easy when the children were little to have trained them to have had every respect for their father and mother, but especially for the mother who was their queen.

Dr. Weber was still in active practice at the age of eightythree and attended many elderly men. He says all the organs may be preserved in a condition of vigour. It is necessary to recognize and subdue any morbid tendencies, whether these be hereditary or have been acquired during life. It is necessary to be moderate in food and drink and in all other physical pleasures. The air should be pure in the dwelling and in the vicinity. It is necessary to take

exercise daily whatever be the weather. In many cases the respiratory movements must be specially exercised, and exercise on level ground and up hill should be taken. The persons should go to bed early and rise early and not sleep for more than six or seven hours. A bath should be taken daily and the skin should be well rubbed, the water used being hot or cold, according to taste. Sometimes it is advantageous to use hot and cold water. Regular work and mental occupation are indispensable. It is useful to stimulate the enjoyment of life so that the mind may be tranquil and full of hope. On the other hand, the passions must be controlled and the nervous sensation of grief avoided. Finally there must be a resolute intention to preserve the health, to avoid alcohol and other stimulants as well as narcotics and soothing drugs. By following his own precepts Metchnikoff says that Dr. Weber has enjoyed a vigorous and happy old age. He quotes the case of Madame de l'Isle de Fief who died in the Dinay Infirmary in France at the age of 125, and who explained the secret of her longevity in these words: "Extreme sobriety, no worry, body and mind quite calm."

Metchnikoff says that hygienic measures have been the most successful in prolonging life and in lessening the ills of old age. Many years ago Baron von Liebig said that the amount of soap used could be taken as a measure of the degree of civilization of a people. As a matter of fact, cleanliness of the body brought about in the most simple way, by washing with soap, has had a most important effect in lessening disease and mortality from disease. Professor Czerney, a well-known surgeon, says that although cancer, the special scourge of old age, has increased in recent times, one form of the disease, cancer of the skin, has diminished notably. Cancers of the skin, he says, are

met with almost exclusively on uncovered regions of the body, or on parts accessible to the hands. They develop especially where the susceptibility is increased by ulcers or scars which are easily soiled. And so it happens that in the classes where care is taken as to cleanliness, cancer of the skin is very rare and certainly much more rare than it used to be.



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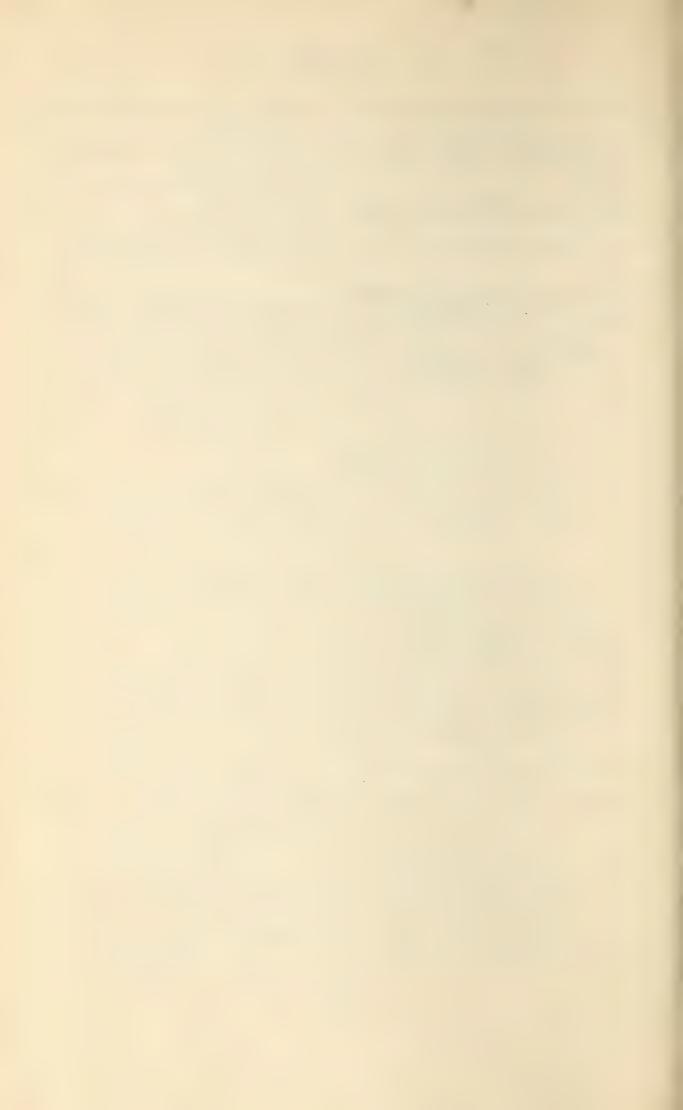
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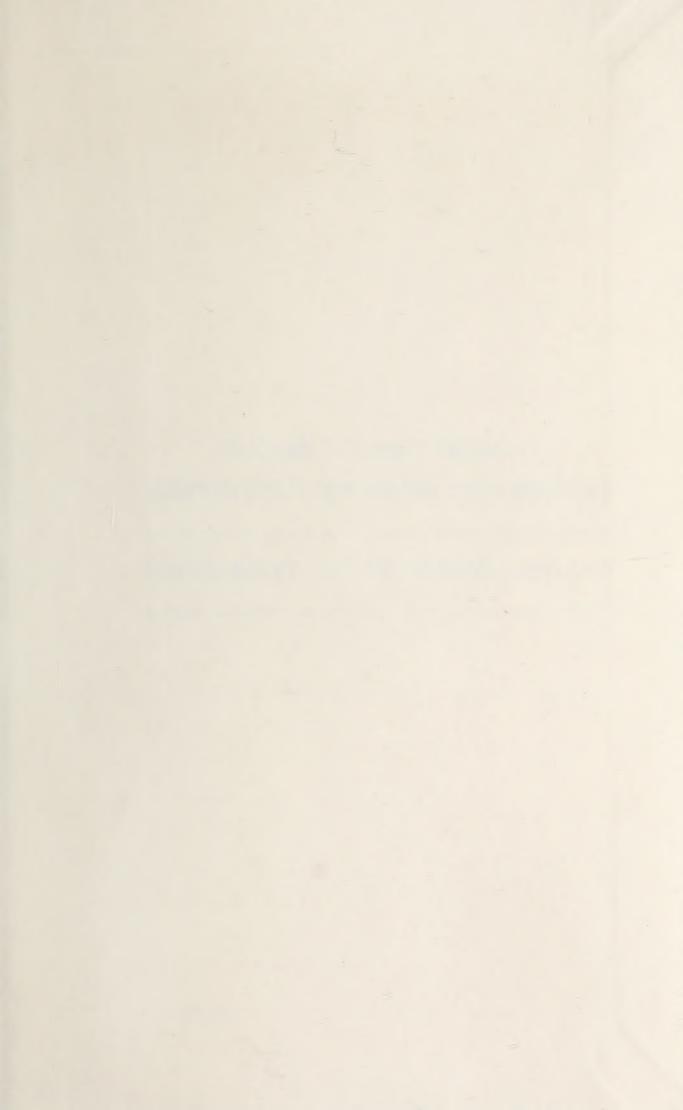
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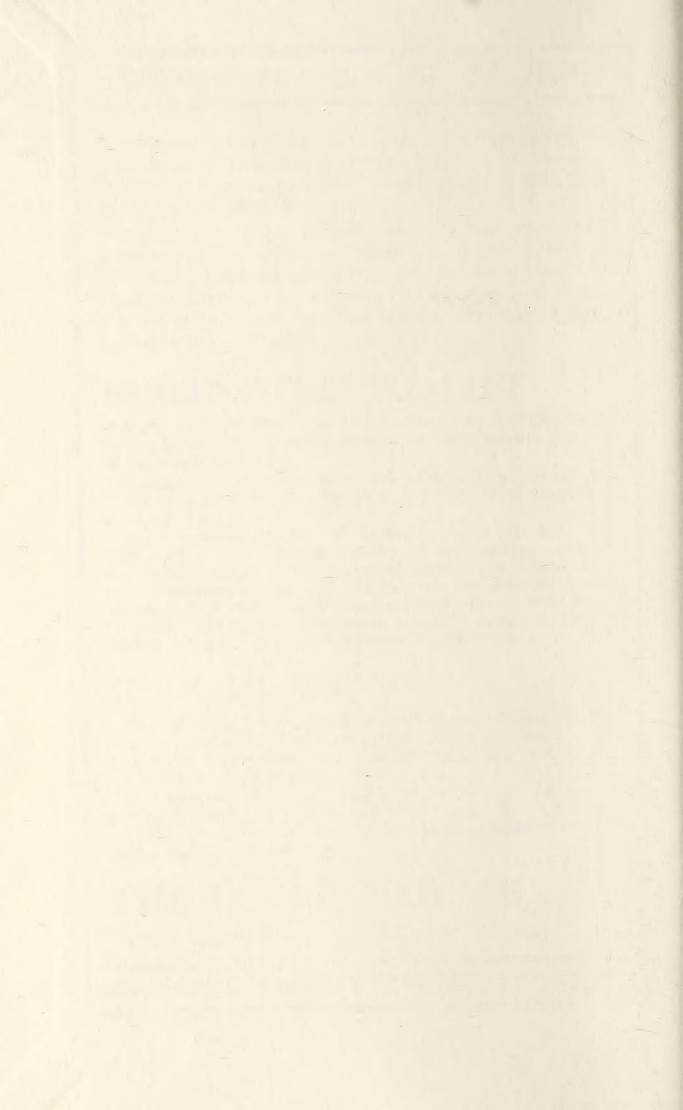
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